

Sustainability Report 2023



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COMMUNICATION ON
PROGRESS

This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

LETTER OF
ENGAGEMENT FROM
THE IRIZAR GROUP
CEO

1

FOR A BETTER
LIFE

Imanol Rego
CEO of the Irizar Group



The Irizar Group is a leader in the bus and coach industry with an international presence in the passenger transport, electromobility, electronics, electric motor and generator, as well as energy and connectivity. All the companies in the Group base our strategy for the future on three main pillars: Brand, Technology and Sustainability. **The Group provides technology and innovation for a better life and for solutions to the new challenges of the energy transition.**

Most of the Irizar Group's turnover, despite its growing diversification, is fundamentally based on the manufacture and sale of coaches, buses and components.

2023 has been the year of recovery and exceeding the levels of billing of 2019. We reached a record figure of 894 million Euros. Mobility has returned to our society, and the Irizar Group is showing itself to be up to the task of meeting that need, thanks to its efficient line, with a range of smart sustainable vehicles for clients, and by contributing to the energy transition.

We have continued investing up to 3% of our revenue on R&D for products in the last four years. That has led to a complete range of products that contributes to lowering consumption in conventional vehicles. Furthermore, we continued developing complementary lines in the mid-range with electric, or even green hydrogen, drive.

At Irizar, we call Sustainability Sustainable Competitiveness, to make our convictions clear that competitiveness is not possible without sustainability, or vice-versa. **The best evidence of our real commitment to Sustainable Competitiveness (and the Fair Transition), is having practically maintained employment, even through the hardest times when the Irizar Group had steep drops in sales.** Both during

the economic crisis of 2009 and the one from 2020 to 2022, we protected the jobs of people who make up the Irizar Group, strengthening communication and training with the goal of continuing to prepare ourselves for new challenges in the future. We believe economic development and creating employment are fundamental for our commitment to Sustainability, even through the hardest times.

That commitment to Social Sustainability likewise continued in 2023, exceeding the job creation levels of 2019, not just at Irizar but also with our suppliers. **We believe economic development and job creation are fundamental bases for a commitment to Sustainability, beyond purely economic or ecological factors.**

Since I took on the responsibility of being the CEO of the Irizar Group in 2022, we have been swimming in seas of optimism and we have taken the opportunity to reinvent ourselves and **return to the path of growth. We are proud of the strength with which all of us at Irizar have acted, showing commitment, flexibility and resilience**, always giving the maximum added value with the right technology, it shows the value of a solid brand, agility and adaptability, closeness to clients, collaboration with suppliers and strategic alliances.

We do not have the slightest doubt that the future holds collective public transport as a fundamental solution to achieving Sustainability. It is the major alternative that will substantially reduce emissions and it is a fundamental solution for the Sustainability of the planet.

Since 1889 when we started manufacturing horse-drawn carriages, we have seen several revolutions. And now we are reinventing ourselves to be **global leaders in Sustainable and Smart Mobility** (both urban and medium and long distance), which is comparable to

when, in 1928, we manufactured our first mechanical drive vehicle. It is not an incremental improvement, it is total innovation with a transversal goal especially aligned with our high-priority Sustainable Development Goals.

We are in the midst of a paradigm shift in Mobility that reinforces our commitment to innovation, which is in our DNA, and lets us focus on Sustainability from an integral point of view. We focus on the entire life cycle of our vehicles, from development, extracting raw materials, and production to the end of their useful life. That is why **we continue integrating Sustainability into our strategy and operations. We seek solutions with a high technological content that let our clients, who are the ones who guide the goals we set, operate in the most efficient and sustainable way.**

In view of the European goals to reduce polluting emissions 55% by 2030, and to reach net-zero emissions in 2050, we want to be part of the solution by contributing to greater Sustainability. Our strategy is to reduce the impact of our vehicles, eliminate GHG (greenhouse gas) emissions, and noise pollution, in addition to improving information for users and improving passenger safety. **All of that at the same time we increase passenger safety, with a high degree of connectivity and artificial intelligence, including driverless vehicles.** Passenger transport is going to be zero-emissions, but a combination of technologies will be used side by side for a long time. At Irizar, we have gone from only manufacturing medium and long distance coaches with diesel engines to manufacturing a wide range of technological solutions with alternative drive systems and fuel: zero-emissions electric buses and trucks, hydrogen, hybrid, diesel and biodiesel, HVO, natural biofuel (CNG and LNG) coaches. In that way, we span all segments of the market from long-distance to urban.

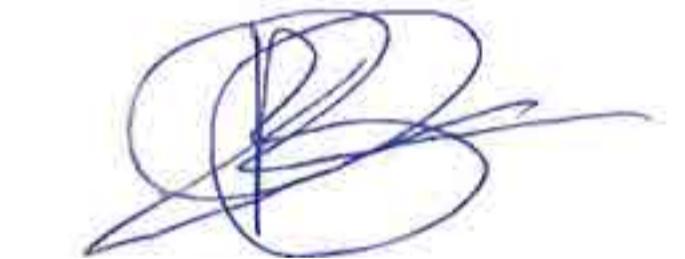
In addition to working on lowering the fuel consumption and GHG emissions of our vehicles by working on drive technology and alternative fuels, we also do it by constantly innovating in aerodynamics and body weight. A magnificent example of that is the **Irizar i6S Efficient, the most efficient coach in our history**, which we launched in 2022 and that won the Sustainable Bus Award. It had a reduction of consumption and emissions up to 13%, a weight reduction up to 950 kg and an improvement in the aerodynamic coefficient of 30%. At Busworld 2023 we presented a new generation of Efficient vehicles with an additional reduction in consumption of up to 5%, an improvement in weight optimisation, and that also meets all the new GSR and cybersecurity regulations. In 2023, we manufactured and launched our first hydrogen coach: the **Irizar i6S Efficient hydrogen**, which gives us a competitive advantage to **lead the market of zero-emissions long-distance vehicles**. In addition to the hydrogen version, the Irizar i6S Efficient is currently available with diesel, biodiesel, natural gas and biogas technology. And we keep developing the Efficient line in other coach models.

We are convinced that our sustainable behaviour inspires **trust** with our stakeholders, which creates a **competitive advantage**, even in moments of change and uncertainty, at the same time that it lets us take on the challenges being faced by humanity and the planet. The opportunity to make a real impact and reinvent ourselves, creating value to make it possible to fulfil the **ten principles of the Global Compact** (about human rights, labour standards, the environment and the anti-corruption) and the **Sustainable Development Goals (SDGs) of the 2030 Agenda of the United Nations**, is immense in all three dimensions of Sustainability: economic-governance, social and environmental. That is why we are reaffirming our **firm commitment** to the principles and SDGs of the United Nations. Both of them, respectively, help us focus on **HOW to operate sustainably, WHAT to do and WHY**.

Irizar has a holistic vision of Sustainability. We make an impact and **create transformation in Sustainable Mobility** by creating technological solutions adapted to the needs of clients, passengers and citizens today and in the future.

We are very excited about being able to provide our grain of sand to building a more sustainable world and a better life ("For a better life"), alongside all our stakeholders and society at large. We invite you to read more about how we are turning our convictions into reality. We present the main initiatives and the progress we have made on the actions we are carrying out in terms of Sustainability below in a transparent way.

Thanks to everyone who is working with Irizar on building a better world!



Imanol Rego, CEO of the Irizar Group

IRIZAR AND SUSTAINABLE COMPETITIVENESS

Contributing to the SDGs and goals of the UN 2030 Agenda:

Priority SDGs



- 8.1. Maintaining economic growth
- 8.2. Raising productivity through diversification, technology and innovation.
- 8.5. Achieving full employment and decent work
- 8.7. Eradication of slavery, trafficking and child labour
- 8.8. Protection of labour rights and safe work



- 9.2. Promotion of inclusive and sustainable industry
- 9.4. Infrastructure modernization, clean technology
- 9.5. Increase in scientific research, technological capacity
- 9.B. Developing domestic technology and research in developing countries



- 11.2. Providing access to public transport
- 11.6. Reduction of environmental impact in cities.



- 12.2. Achieving the efficient use of natural resources
- 12.4. Managing chemical waste and products
- 12.5. Prevention, reduction, recycling and reuse of waste
- 12.6. Adoption of sustainable practices in businesses
- 12.8. Ensuring education for Sustainable Development
- 12.B. Achieving sustainable tourism

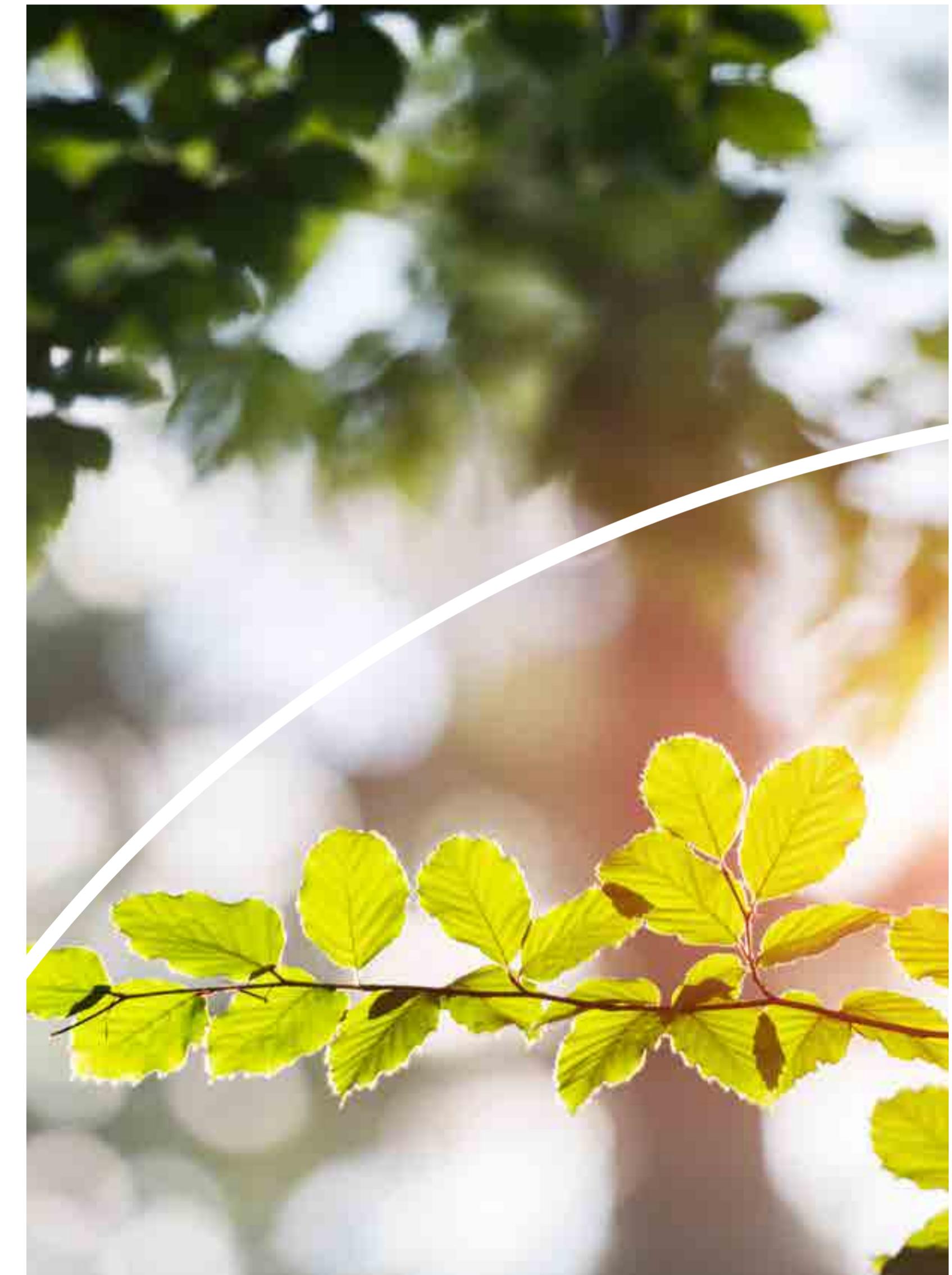


- 13.1. Strengthening resilience and adaptation
- 13.3. Improving environmental education and awareness



- 5.1. Ending discrimination
- 5.5. Ensuring the full participation of women and equal opportunities in leadership

- 16.2. Eradication of child abuse, exploitation, trafficking and child exploitation
- 16.5. Reducing corruption and bribery
- 16.7. Promoting citizen participation
- 16.10. Access to information and fundamental freedoms
- 16.11. Promotion and application of laws and policies (Human Rights)



IRIZAR AND SUSTAINABLE COMPETITIVENESS

2

2.1. About us

- Irizar S.Coop. and its business Group.
- Strategic thoughts: Mission, Vision and Commitments
- Brand, Technology and Sustainability

2.2. Our Sustainable Competitiveness

- 2.2.1. Sustainability as a strategic priority
- 2.2.2. Proud of our real commitment to sustainable Competitiveness

2.2.3. Our global reference frameworks.

- The 10 Principles of the United Nations Global Compact
- The United Nations 2030 Agenda and 17 SDGs

2.2.4. We are a responsible organisation.

- We include Sustainability in our strategy and management
- We are moving Forward in Transparency, Good Governance and Integrity.
- We make strategic alliances and partnerships with the Global Compact to drive Sustainability
- We contribute to raising awareness about Sustainability throughout society.

2.3. Commitment to the Principles of the Global Compact

2.4. Committed to the SDGs of the UN's 2030 Agenda

- 2.4.1. Including the SDGs into our 2030 Irizar Agenda.
- 2.4.2. Relationship between the SDGs and the chapters of this report.

2.1, About us

Although this Sustainability Report has been produced by Irizar S. Coop., we believe that it is important to have the Group's perspective: to better understand its content, and because there are shared values, strategies and management models.

Irizar S.Coop. and its business group

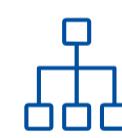
One Group, six business areas



Founded in
1889



1 R&D Centre



6 leading companies
in their sector and
22 companies of their
own



11 production centres
worldwide

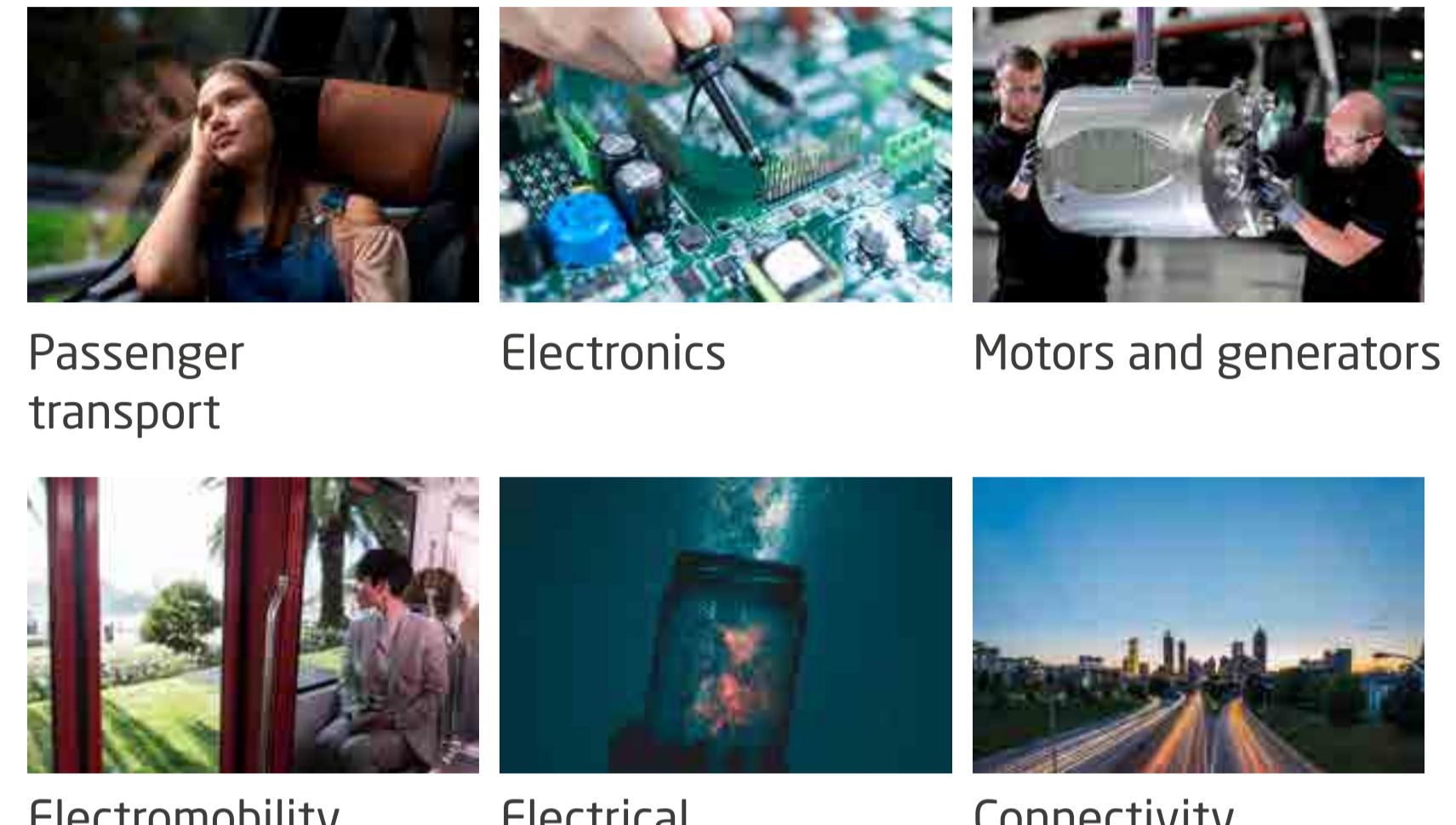


3.198 people



€894 M (2023)

The Irizar Group is a leader in the bus and coach sector with an international presence in the passenger transport, electromobility, electronics, electric motor and generator, connectivity and energy industries.



The Irizar Group is comprised of Six companies brands that have production operations in 11 centres spread across Spain, Morocco, Brazil, Mexico and South Africa. It also , has its own R&D Centre with a long-term focus on the applied research process and the technological development of proprietary products and systems.

Founded in 1889, today, Irizar is a well-established Group made up of 3198 people (2023), with a presence in more than 90 countries on five continents, and it has 22 companies. It is geographically and industrially diversified, continuously growing and firmly committed to the Brand, Technology and Sustainability and to its own-brand products, including electric buses and coaches as well as its other products in the sectors it operates in.

In section "2.2 Our Sustainable Competitiveness", you can see the evolution of the sales and employment of the Irizar Group from 2005 to 2023. 2020 and 2022 will go down in history as the Covid-19 years, a

parenthesis that signified a change in the trend of the rising line of productive and economic activity.

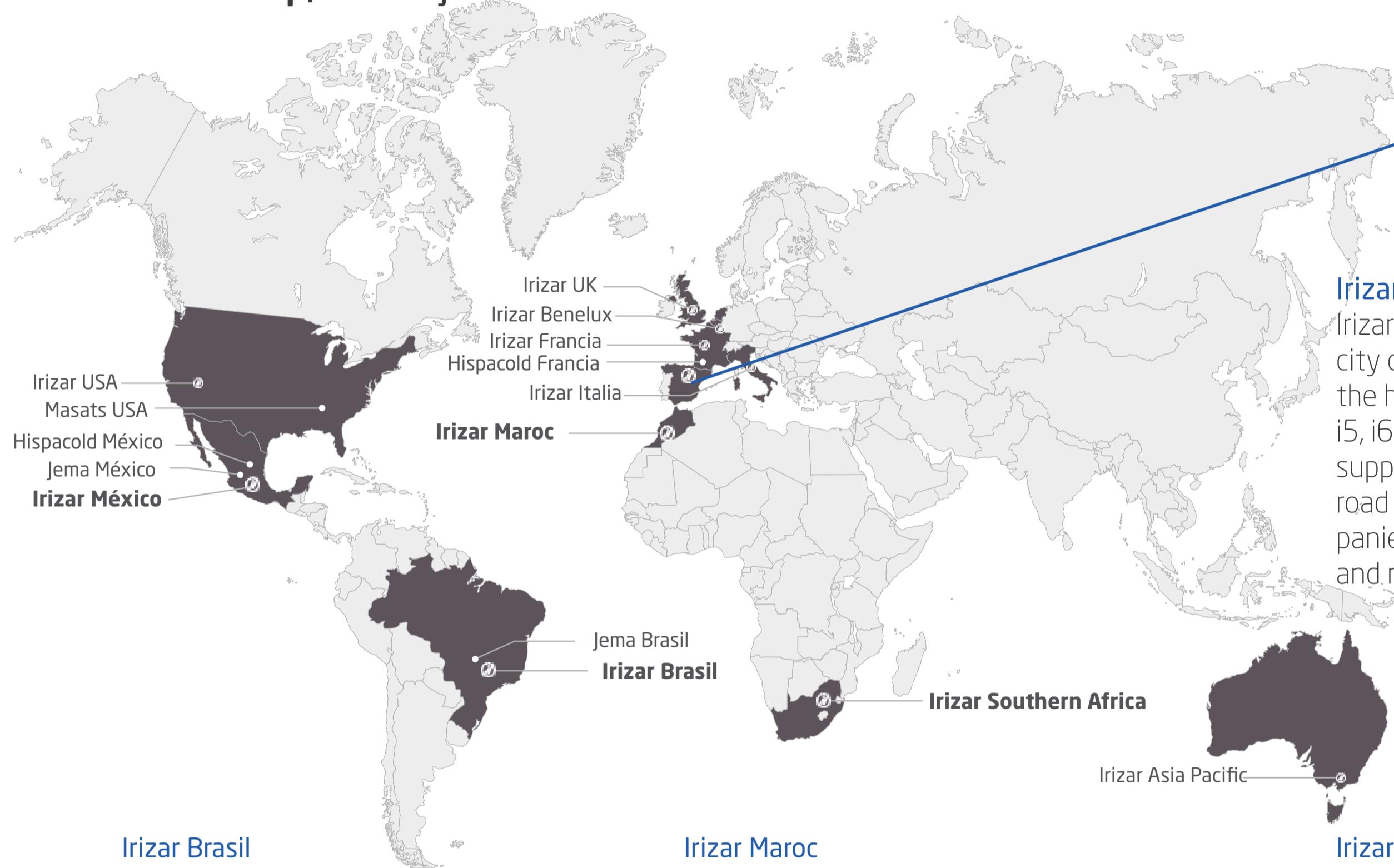
With 894 million Euros in billing in 2023, not only have the bad years from the Covid-19 effect been overcome, we also surpassed the 766 million Euros reached in 2019, which was the record for the Group until now.

Most of the Irizar Group's turnover, despite its growing diversification, is fundamentally based on the manufacture and sale of buses, coaches and components.

Irizar, S. Coop (Irizar) is the parent company of the conglomerate and its headquarters are located in Ormaiztegi (Gipuzkoa, Spain) where Creatio, the Group's Research and Development Centre, is also located.



Irizar Group One Group, six major brands



Irizar Brasil

In 1998, Irizar Brasil was created, in the town of Botucatu, with the objective of breaking into the Latin American market. Positioned in the luxury coach segment with the Irizar i6 and i6S models, Irizar Brasil is established as a project with a strong commitment to exports. From Brazil, the Group serves the markets of South America, Central America, Africa, and Oceania.

Irizar Maroc

In 1996, the company Irizar Maghreb was established in Morocco. In 2002, the Irizar Century model was launched, and in 2008, a new plant was opened in Skhirat, with a production capacity of 1,000 coaches per year. In 2013, it began manufacturing buses for Europe. Following the launch of the Irizar i6 in 2014, and the Irizar i6S in 2017, Irizar Morocco is consolidated as one of the most expansive projects at the international level, being market leader in the luxury coach segment.



Irizar Mexico

Irizar Mexico was founded in the city of Querétaro in 1999. It serves the high-end market with the Irizar i5, i6, i6S, and i8 models and is the supplier of choice for the largest road transport and passenger companies. Its market share has grown and now stands at 66%.

Masats

Accessibility systems for public transport vehicles.

Creatio

Irizar Group's Research and Development Centre which was created in order to enhance the Group's applied research and technological development capabilities both for its own-brand products and for the main coachwork components.

Irizar

Wide range of biodiesel, natural gas (CNG and LNG) hybrid, hydrogen and conventional integral buses and coaches

Irizar e-mobility

Integral electromobility solutions for cities. 100% zero emissions, electric vehicles, charging systems, electric traction, energy management and storage.

Alconza

Engines and generators for the marine, hydroelectric and industrial sectors

Jema

Power electronics applied to network and transport quality. Power supplies for Big Science. Renewable energy, storage and Smart grids. Electronics for coaches.

Hispacold

Climate control systems for buses, coaches and rail vehicles.

Branch offices

Irizar Benelux

Created in 2018, it offers sales and after-sales service for integral electric buses and coaches throughout Benelux.

Hispacold Mexico

Founded in 2002, it is dedicated to the manufacture and supply of air conditioning systems for buses and coaches.

Irizar USA

Created in 2016 and based in Las Vegas, it covers the US market with the Irizar i6 model.

Irizar Italia

Created in 1993 and based in Rimini, it offers service and a complete after-sales network throughout Italy.

Irizar Asia Pacific

Since 2006, Irizar has been present in Oceania, based in Melbourne, offering services to New Zealand and Australia.

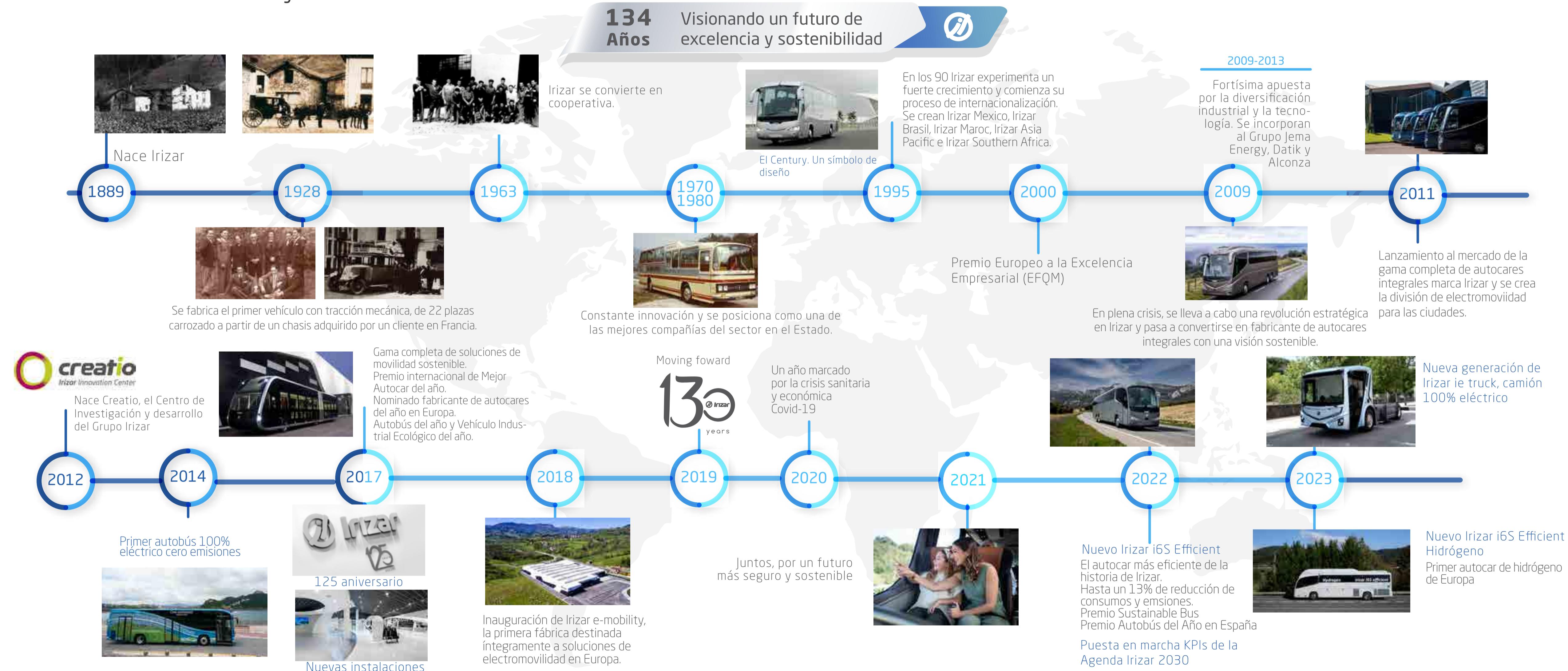
Jema USA

Based in California, it offers customised services in the photovoltaic, storage, and advanced services sectors. Additionally, it has references throughout the US in each of these sectors.

Irizar France

Founded in 2011, Irizar Autocars offers sales and after-sales service to the French market with the full range of Irizar integral, electric, and hybrid vehicles.

Some milestones in our history



Strategic thoughts: Mission, Vision and Commitments

Our Strategic Thoughts are the fundamental principles that guide both the strategic decisions and the organisational culture of the Group. They are revised periodically and defined and shared by everybody in the organisation. In that process, aspects of the economic and social environment, the sector, market and competitors, technological evolutions in mobility and digitalisation, as well as the ESG needs and expectations of the internal and external stakeholders are taken into account.

Specific meetings are held for everybody at Irizar to reinforce knowledge of the strategic thoughts. Likewise, annual assemblies are held in all the companies of the Irizar Group where the most important issue dealt with is strategy (including Sustainability).

More details of the strategic analysis process and participation of the people at Irizar S. Coop. can be seen in section 4.2.3 "Participation in management and economic results" in chapter 4, about people.

Our strategic thoughts are extensive. We are only presenting our mission, vision and commitments here.

Mission

Our mission is to continuously strengthen our business project and brand in order to grow and generate wealth and employment in our environment.

It is key to achieve a high degree of customer satisfaction by establishing a close relationship with them and offering them the guarantee of a sound project in which they can trust.

The flexibility to adapt to the needs of our customers by providing them with the products and services they require is a strategic factor that sets us apart from our competitors and enables us to earn their loyalty.

Furthermore, we strive to maximise satisfaction among Irizar Group employees, our external partners, and for society as a whole.

We work and will continue working in Irizar S. Coop.'s cooperative framework and in a framework of communication and participation in the management and results of the other group companies.

Vision

Our vision is to provide buses and coaches with a marked difference in safety, reliability, comfort and profitability for our customers, passengers and to society and set the standard in service, design, innovation, technology and Sustainability.

To also be a benchmark in providing value to customers in the Group's other businesses.

Commitments

Every day we strive to achieve a position of leadership that gets passed on in benefit of our customers. We work as a team with personnel who are committed to the customer and to the Group's strategy. We promote efficiency, communication, participation, self-management and managerial excellence.

We create environments where everybody who is part of our projects can give their best according to their talent, abilities and aspirations. This is key to our future success.

It is fundamental to achieve a high degree of customer satisfaction by establishing a close relationship with them and offering them the guarantee of a sound project in which they can trust.

The flexibility to adapt to the needs of our customers by providing them with the products and services they require is a strategic factor that sets us apart from our competitors and enables us to earn their loyalty.

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We work and will continue working in Irizar S. Coop.'s cooperative framework and in a framework of communication and participation in the management and results of the other group companies.

Brand, Technology, and Sustainability

Brand, Technology, and Sustainability are the three main building blocks on which the Irizar Group's future strategy is based. An inspirational framework that shows us the way to the future and defines our commitment to remain one of the world leaders in the sectors in which we are present.

Although we will deal with it in detail in chapter "3. Customers, Passengers and Citizens" and "5, External Partners, Supply Chain and Alliances", we will briefly summarise what we understand by **Brand and Technology**.

- Our strategic lines include the development of Irizar brand and technology products and a clear commitment to increasing our technological capacity and industrial diversification.
- We offer customers and society high added value by providing cutting edge products and services created and developed through contributions from the entire Group and aimed at the Premium segment. We provide turnkey solutions for sustainable, efficient, intelligent, accessible, safe and connected public transport. Design and innovation are part of Irizar's DNA.
- We have become an important leader in coaches and buses and we have established ourself in markets where we are currently present. We continue developing and deploying a wide range of more and more

sustainable products and technological solutions to suit all needs. We have a wide range of solutions that include zero-emissions urban buses and trucks and hybrid, diesel, biodiesel, HVO Coaches, biofuel and natural gas (CNG and LNG) coaches. It is a wide range of options that spans all segments of the market, including urban buses, medium and long distance suburban coaches for regular and discretionary and premium services in either a wholly Irizar branded version or in a combination of bodywork with chassis available on the market. It is an offer that we continuously keep expanding with several mobility projects under way with electric vehicles that have hydrogen fuel cells or that use new renewable fuels.

- Creatio, the Irizar Group Research and Development Centre, enhances the Group's capacity for applied research and technological development for its products and systems. It combines the synergies and technological capabilities of the Group's companies and is the result of the Irizar Group's key strategy of ongoing commitment to industrial innovation.
- Innovation is one of the hallmarks of our corporate identity. It is part of our culture and extends to management, product, and service levels, as well as Sustainability, technology, and image. We encourage innovation and creativity not only in what we do, but also in how we do it. Accordingly, we are constantly progressing, at Group level and in each of the Group's individual organisations. We are not only increasingly more agile, flexible, and adaptable but better able to anticipate future challenges while adding value to our brand and stakeholders.



Sustainability will be discussed in depth from here on in the entire Report and, apart from being a strategic priority and part of our mission, as we will see, it influences the focus and management of the other two.

With the universal concept of Sustainability in mind:

SUSTAINABILITY What is it? 

Meeting the needs of the present without compromising the ability of future generations to meet their own needs.



Our starting point is the definition of Sustainability for Irizar that we made ours, with the ones used by the European Commission and World Economic Forum as a reference.

SUSTAINABILITY What is it? 

The purpose or responsibility of companies is to collaborate with all the stakeholders in the creation of long-term shared and sustainable value, integrating three dimensions: economic/governance, social and environmental in its strategy and operations.

Respect for the applicable legislation and regulations is a prerequisite for fulfilling said responsibility.

- **Stakeholders** owners, people, clients/passengers/citizens, suppliers and external collaborators, society and environment
- **Integrate** social, environmental, ethical concerns and respect for human rights (in all links of the supply chain)

2.2. Our Sustainable Competitiveness

At Irizar we also call Sustainability Sustainable Competitiveness, to make clear our conviction that Competitiveness is not possible without Sustainability, or vice versa. We are convinced that in the long-term companies can no longer choose between profitability or Sustainability, there is no profitability without Sustainability.

For a number of years, Sustainability has been one of the three key priorities of our Group's future strategy, and it drives us forward and commits us to working by **contributing to the construction of a better World for everyone**. All within a culture and business approach of integrity that is governed by Ethical Principles.

For years this commitment has been part of the culture of the people who make up the Irizar Group and of the projects and decisions that are addressed by the different companies of the Irizar Group. Our actions seek to promote it and integrate it into our strategy and operations in all the Group's production plants and companies at international level.

Sustainability is required as an important competitiveness factor for sustainable growth and an essential competitiveness advantage for the future of Irizar.

Our future success depends on us going beyond the search for economic profitability and compliance with applicable legislation (local, regional, national, foreign, and international laws) and internal regulations. All within a culture and business approach of integrity that is governed by Ethical Principles. We strive to create a true culture of Sustainability (economic-governance, social, and environmental), integrated at the Group level in the daily management of all the organisations that comprise it and in our relationships with all stakeholders (people, customers, passengers, citizens, external partners, the environment, and society in general).

We are convinced that our sustainable action inspires confidence in both leaders and stakeholders and generates a competitive advantage in times of change and uncertainty. At the same time, it allows us to address the governance, social and environmental challenges faced by humanity and the Planet, at the same we contribute to the economic stability of the market.

In addition to the individual progress and initiatives in Sustainability for each Group company, the focus and long-term trajectory of continuous progress at Irizar S. Coop serves as a reference and facilitates strategic progress in the future at the same time that it motivates the implementation of sustainable actions by the rest of the companies in the Group and between them.



2.2.1. Sustainability as a strategic priority

We keep focusing our efforts so Irizar can become a **global leader in Sustainable Mobility** for urban and medium and long distance transport, which is why we keep integrating **Sustainability as an indispensable value for the future into our strategic plans**. At the same time we seek solutions with high technological content to allow our customers to operate the services they offer more efficiently and sustainably, because they are the ones who guide the goals we set.

As you will see in detail in the chapter about "Clients, Passengers and Citizens", the **main global trends** (decarbonisation, urbanisation and digitalisation), have a radical impact on the **transportation ecosystem** which is being transformed deeply and more quickly than initially expected. The concept of sustainable, intelligent, connected, safe and shared mobility is based on 3 key points:

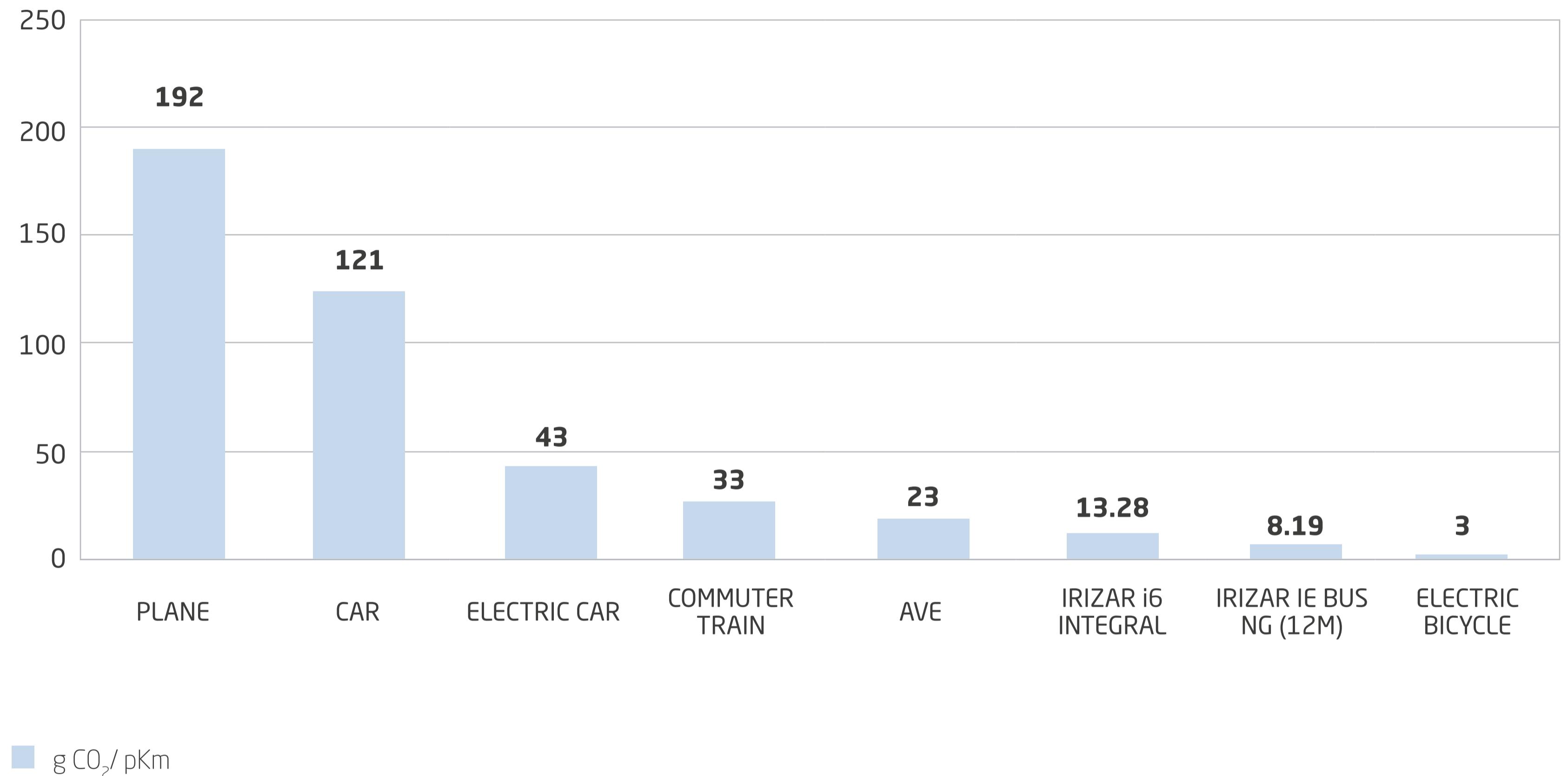
- **Decarbonisation** Reducing emissions, electrification, alternative fuels and Hydrogen as an energy vector
- **Safety - Driverless vehicles** and
- **Connectivity - Big Data**

We have no doubt that the future will include **collective public transport as a fundamental solution for achieving Sustainability**, which is **the major alternative for substantially reducing emissions because**:



- A bus can transport as many people as 50 cars.
- Buses are the most used form of public transport in the world and the one with greatest capillarity.
- It has been shown that cars are only used 5% of the time and that must be optimised.
- According to a study by the **IDAЕ (Institute for Energy Diversification and Savings)** and the emissions of our vehicles, the **comparison of the carbon footprint between buses and coaches and other means of transport** is very advantageous (g CO₂ per km passenger transported).^(*).

Because of that, at Irizar we think the fleet of buses and coaches in Europe may increase by **2050**, with more significant growth in the urban and inter-city segment.



(*) for electric modes the CO₂ emissions associated with generating the **electricity consumed during use** are taken into account even though at the point of use no polluting emissions or CO₂ are generated.

In addition, they generate a significantly lower acoustic **impact** than their thermal equivalents.

Since we started building horse drawn carriages in 1889 we have seen several revolutions. We are now reinventing ourselves in terms of sustainable and intelligent mobility, which is comparable to when in 1928 we manufactured our first mechanically powered vehicle. It is not exactly an incremental improvement. It is integral innovation with a transversal goal especially aligned with 4 of our high priority SDGs.



We are facing a **paradigm shift in mobility** that reinforces our commitment to INNOVATION, which is part of the DNA of the Group, and focus is put on **SUSTAINABILITY** from an integral point of view.

Innovation is the only path for contributing to society with mobility products and solutions that can improve our lives (**"For a better Life"**).

Lowering the impact of our vehicles, eliminating GHG (greenhouse gas) emissions and noise pollution, improving information for our users, and improving passenger safety are our priorities. We believe that is the foundation upon which we can build all our Sustainability activities that society today demands of us. And that is where we want to be. We are continuing to innovate, because innovation is in our DNA, and we stay close to our customers, adapting to their new circumstances. Accordingly, we are focusing on the entire life cycle of our vehicles: from their development, starting with extracting the raw materials, to production and use, up to the end of their life.

Along these lines, we are continuing to collaborate with our stakeholders in the generation of shared and sustainable long-term value, by including the three dimensions of **Sustainability into our company culture: economic/governance, social and environmental**.

- Customers, passengers, citizens
- People (workers and cooperative members).
- External partners, Supply Chain and Alliances.
- The Environment
- Society in general

It is a process aimed at **including your concerns into our strategy and operations**: social, environmental and ethical in regards to human rights (in every link of our supply chain), in order to:

- Maximize the **creation of shared value** for all the aforementioned stakeholders;
- identify, prevent and mitigate their possible adverse consequences and risks.

We know Sustainability is the strongest force for change in our generation. It is the future, not just for the well-being of Humanity and the Planet, but also for the economic stability of the market. Our success depends on going far beyond seeking economic profitability, complying with



applicable laws (local, autonomous community, national, foreign and international laws) and internal regulations. All within a **culture and business approach of integrity that is governed by Ethical Principles**.

Our firm commitment to Sustainability is led by the **CEO**, with the goal of making progress towards more sustainable business models that are driven or advanced by the Sustainable Competitiveness manager. Furthermore, we understand that Sustainability management should not wait. We must make progress to **achieve it transversally**, not secondarily, and it must be led by the rest of the members of the **Management Team** to expand throughout the global management of the company into all the departments, areas and people involved. It means not just showing leadership inside the company but extending it to the **value chain** and, to the extent possible, throughout the industry and the entire **organisational ecosystem**.

The path to Sustainability involves leadership by everybody in the Irizar Group to make transformations happen, not just limited to environmental issues but that also include transformations in economic, governance and social issues. Irizar's commitment is to work along the lines: economic, social and environmental. And that involves a **change of mentality throughout the whole organisation**.

We are convinced that **our sustainable action inspires confidence** in both leaders and stakeholders and **generates a competitive advantage** in times of change and uncertainty and, at the same time, allows us to address the economic, social and environmental challenges faced by humanity and the planet.

In the following chapters (from 3 to 7) we will see in detail how we generate value for each one of our stakeholders.

2.2.2. Proud of our real commitment to Sustainable Competitiveness

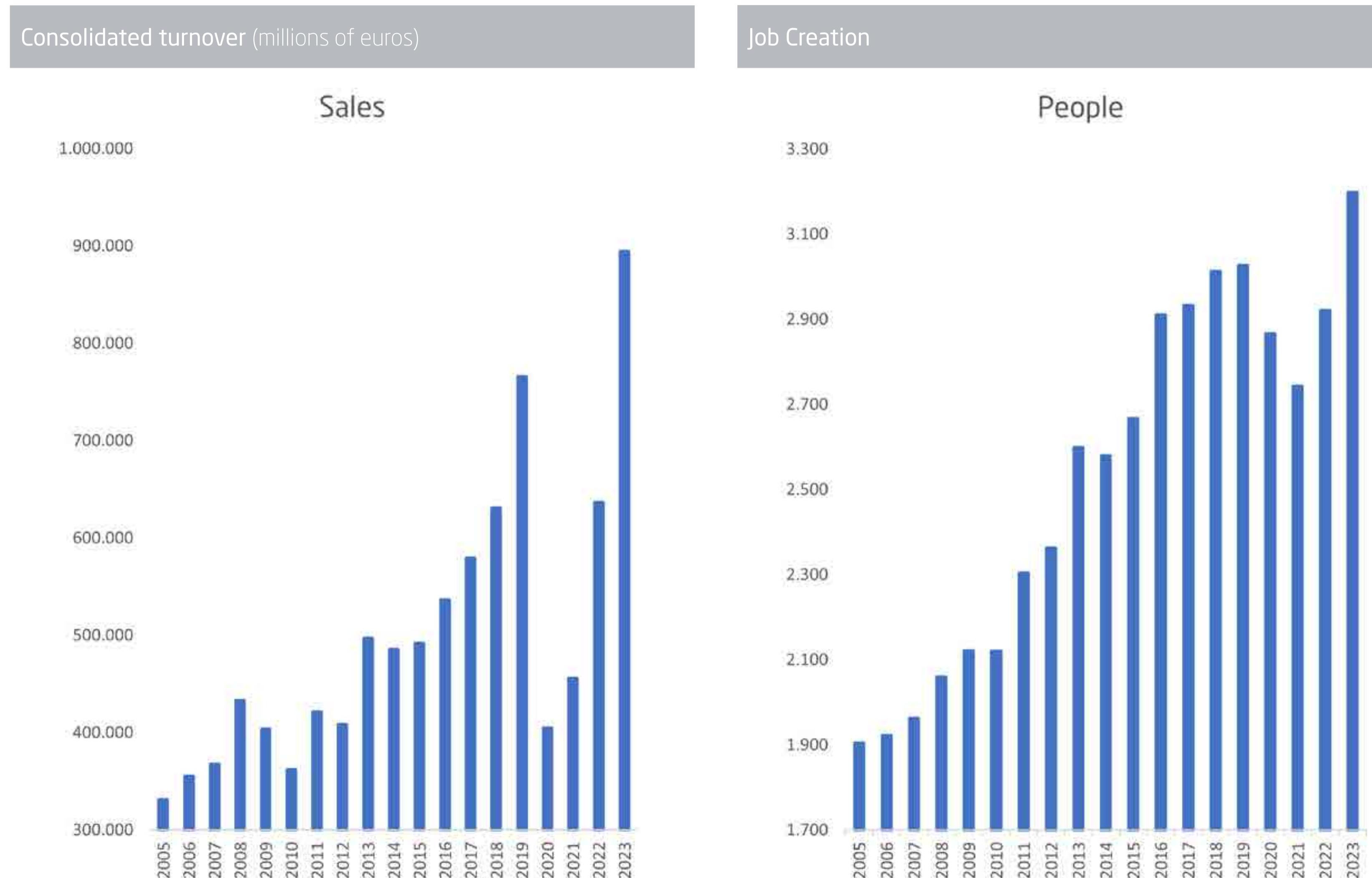
We are convinced that to work for Sustainable Mobility, we have to do it while ensuring a **Fair Transition**. For us, that means jointly and coherently taking on the three dimensions of sustainable development (environmental, social and economic-governance), with a focus on People and Human Rights in everything we do to tackle climate change, digitalisation, economic crises, pandemics, and other external global challenges that arise.

We are proud of how we have tackled the challenges brought about by the 2010 Economic Crisis and the Covid-19 Pandemic, among other things, thanks to the hard work and commitment of everybody who is part of the Irizar Group. Our goal is to keep being an attractive Group for talent by creating high quality jobs with a company culture and behaviour that has integrity and is guided by Ethical Principles.



We understand that economic development and job creation are fundamental in our commitment to Sustainability, even in the greatest difficulties. And the **best evidence of our real commitment to Sustainable Competitiveness** (economic-governance, social and environmental) **and the Fair Transition** is the graph below. It shows the coherence with our Mission and our commitment to make a positive impact on the 2030 Agenda, especially on SDG 8.

Evolution of sales and employment at the Irizar Group



Despite the crisis and drop in sales of the Irizar Group in 2010 we maintained employment. And in 2020 and 2021, despite the severe impact of Covid-19 on our business, the decrease in employment was not very significant. We used the opportunity to reinforce communication and training so we could keep preparing for new future challenges. Fortunately, in 2023 we reached a record level of billing and employment.

The transportation industry went through significant changes and faced significant challenges with the Covid-19 pandemic, because it caused a decrease in bus and coach manufacturing that affected us deeply. The economic recovery after the pandemic and the return to normality in the public transport sector made it possible for us to reach record levels of business in the Group.

In this scenario, at Irizar we keep reinforcing three strategic lines for the future: Brand, Technology and Sustainability. In addition, it was a year of opportunities and progress in strategic positioning where we have kept reaffirming our focus on sustainable mobility as the guide for our future growth.

Our “**For a better Life**” resolution is still inspirational, and it shows the spirit of those of us who make up the Irizar Group.

At the Irizar Group we are going back to our goals with fortitude, innovating and returning to the path of sustainable growth.

2.2.3. Our global reference frameworks

Our business sustainable business model is inspired by ETHICS and the largest voluntary World Reference Frameworks in corporate Sustainability: the 10 Principles of the United Nations Global Compact and the 17 SDGs of the United Nations 2030 Agenda. Respectively, they both help us focus on **HOW to operate in a sustainable way, WHAT to do and WHY**.

The United Nations Global Compact promotes implementing 10 universally accepted principles in the areas of human rights, labour standards, the environment and the fight against corruption in the business activities and strategies of organisations. With more than 20,000 participants in more than 160 developed and developing countries that represent almost every sector and size.

At Irizar S. Coop. we have been **adherents of the United Nations Global Compact since 2013**. Consequently, every year we draft a **Sustainability Report** where we renew our firm commitment to make progress in implementing the 10 Principles and contributing to the Sustainable Development Goals, at the same time we state the main initiatives and progress in the activities we have been doing with our stakeholders.

This report shows our transparency and we publish it in different internal and external media. On one hand, [it is on the United Nations website](https://www.unglobalcompact.org/what-is-gc/mission/principles) and, on the other hand, it is [on our website](https://www.irizar.com/sustainability-report) (in different languages).



This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

THE TEN PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT

- HUMAN RIGHTS**
 - 1. Businesses should support and respect the protection of internationally proclaimed human rights; and
 - 2. make sure that they are not complicit in human rights abuses.
- LABOUR**
 - 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
 - 4. the elimination of all forms of forced and compulsory labour;
 - 5. the effective abolition of child labour; and
 - 6. the elimination of discrimination in respect of employment and occupation.
- ENVIRONMENT**
 - 7. Businesses should support a precautionary approach to environmental challenges;
 - 8. undertake initiatives to promote greater environmental responsibility; and
 - 9. encourage the development and diffusion of environmentally friendly technologies.
- ANTI-CORRUPTION**
 - 10. Businesses should work against corruption in all its forms, including extortion and bribery.

The 10 principles of the United Nations Global Compact

The 10 Principles of the Global Compact are the essential values since the birth of this United Nations initiative in 2000. Basing businesses on those principles means more than mere normative compliance.

These 10 Principles are the reference framework for **HOW** to make progress in acting responsibly. They undoubtedly mark the way for us to manage risks better and avoid any negative impacts in the four main focus areas, with the aim of ensuring that our operations are conducted in a way that benefits both economies and societies worldwide.

The 10 Principles of the Global Compact are based on several Declarations by the United Nations and they have universal approval. They are articulated in four main areas:

- **Human Rights:** Principles 1 and 2 They are derived from the **Universal Declaration of Human Rights**
- **Labour Standards:** Principles 3, 4, 5 and 6 are inspired by the **ILO's Declaration on Fundamental Principles and Rights at Work**.
- **The Environment:** Principles 7, 8 and 9 are based on the **Rio Declaration on Environment and Development**.
- **Anti-Corruption:** Principle 10, the last to be incorporated, is based on the **United Nations Convention Against Corruption**

For more information about the 10 principles see: <https://www.unglobalcompact.org/what-is-gc/mission/principles>.

Although reflecting our commitment to the 10 Principles is the main objective of this Sustainability Report, also:

- In section "2.3 Committed to the Principles of the Global Compact" we provide a table showing the chapters / sections of this Sustainability Report with the areas and,
- in section "2.4.1. Including the SDGs into our 2030 Irizar Agenda", we show the block of principles it is related with for each KPI.

The United Nations 2030 Agenda and 17 SDGs

In 2015, the Member States of the United Nations General Assembly approved the **2030 Agenda on Sustainable Development**, consisting of **17 Sustainable Development Goals (SDGs)** and different targets, to "eradicate poverty, protect the planet and ensure prosperity". It encompasses all three dimensions of Sustainability: economic/governance, social and environmental. Its goal is to make the world a more sustainable and prosperous place. The United Nations assigns a leading role to companies in its implementation. A new way to improve everyone's life, without leaving anyone behind.

Five years later, the UN, in its Annual Report on the status of the SDGs, confirmed that progress had been made, but not fast enough to meet the targets on time. Covid-19 increased inequalities in the world and made the need to apply the 2030 Agenda to make a sustainable and inclusive recovery possible even more patent.

In the coming years the goals will stimulate action in five spheres that are **critically important for Humanity and the Planet**.

- **PEOPLE:** End poverty and hunger in all their forms and guarantee dignity and equality
- **PEACE:** Promote peace, justice and inclusive societies.
- **ALLIANCES:** Implement the Agenda through a strong global partnership
- **PLANET:** Protect our planet's natural resources and the climate for future generations.
- **PROSPERITY:** Ensure prosperous and satisfying lives in harmony with nature.



The 2030 Agenda involves **17 Sustainable Development goals** and **169 targets** to be met in 2030. The SDGs focus on us creating positive impacts, contributing to sustainable development and finding business opportunities.

Now is the time **we need to move from economic value to shared value** and align the success of the company with the success of the community. It is not philanthropy, but rather business intelligence, because there will not be prosperous businesses without prosperous environments. That spirit of shared value is, in fact, what the **2030 Agenda (the United Nations plan for humanity) propagates**. The UN gives companies a leading role in sustainable development because they believe that, as motors of the economy, companies have their hands on the lever to bring about systemic change through rethinking products and services or reorienting business, among other things. **The 2030 Agenda is currently the framework for business Sustainability**. We can be sure that when it goes out of force in seven years sustainable management that gives business benefits will continue, because it is perfectly projectable into the future.

The SDGs are the reference framework for **WHAT** to do (roadmap) and **WHY** we do it. They make us to think that doing what we are already doing is not enough, rather we need to also change **HOW** we do things. **We need to transform, not just rebuild what was not working.**

Further information on the SDGs: <https://sdgs.un.org/goals>

Our progress in our commitment to the SDGs is set out in Section "2.4. Committed to the SDGs of the UN 2030 Agenda". In addition, the SDGs and goals related with the content are specified at the beginning of every chapter about an interest group, as well as the KPIs for measuring our impact and contribution to the 2030 Agenda and principles of the Global Compact.



2.2.4. We are a responsible organization

Sustainability strategy and performance include corporate responsibility (which affects everyone and everything), and responsibility with each stakeholder (which is included in detail in the rest of the chapters of this Report).

We Include Sustainability in Our Strategy and Management

ETHICS is the basis of Sustainability. It will be possible if our business culture is guided by shared ethical principles: Those principles emanate from our group mission, vision and commitments and are present in decision making and that are the backbone of **making our Sustainable Competitiveness possible**.

- Sustainability is present in strategic decision-making and day-to-day management in line with the **10 Principles** of the Global Compact (see the previous and following sections and the rest of the chapters).
- In 2018, we began our approach to the United Nations' 2030 Agenda and recognized the timeliness of the Sustainable Development Goals (SDGs).
- Since 2020 we have been making progress in including them in our strategy and operations to contribute to achieving the SDGs as a roadmap to drive prosperity for People and the Planet. We have set priorities and are starting to work on 7 SDGs and 26 goals

that have a high impact on our business activities and extensive value chain. You can see more details about our commitment to the SDGs in section 2.4 and at the beginning of all the following chapters.

- At the **annual assemblies**, where everybody at Irizar S. Coop. participates, Sustainability is always addressed within the global strategy and progress of the company (its dynamics can be seen in detail in chapter 4 about People). For example:
 - Sustainability is a key **competitiveness factor** of the Irizar Group.
 - In 2020 the new version of the **Code of Ethics** was presented for approval by all the members.
 - Our **high Priority and Transversal SDGs** from the 2030 Agenda were presented in 2020.
 - From 2020 to 2023 **Sustainability was set forth as the axis** around which the rest of Irizar's strategies would revolve, especially for **Sustainable Mobility**.
- We continue to make clear progress in **training and raising the awareness of people about Sustainability**. In 2021 and 2023, we can highlight training in **Sustainability and SDG/2030 Agenda for the management team and president** given by the Sustainable Competitiveness manager. The involvement and leadership of the Management Team is fundamental for making progress towards putting Sustainability in practice transversally not just secondarily. Training in it will subsequently be promoted and it will also be spread to leaders and the rest of the people in the organisation. The commitment is important for achieving the goals set for the future.
- As we explain later in chapter "4. We create value for our people", we do in depth revisions of the **Strategic Thoughts** every three or four

years where DAFO analyses are done taking into account economic-governance, social and environmental issues. That is done to set priorities and define actions with the goal of making the strategy be aligned with the expectations of all the stakeholders and thus guarantee their needs, sustainable growth for the company and creating value, wealth and employment, as our mission states.

The Irizar Group is exposed to risks that are directly related to the productive or commercial activities of its divisions or that result from external influences. These are risks that may prevent the Group, or any of its business areas, from achieving its objectives. At times, the risks translate into opportunities that must also be identified and exploited. Therefore, in the Irizar Group and all its business areas, risk and opportunity analysis is immersed in the culture, strategy, and management of each of the teams and processes. It is automatically integrated into strategic plans and decision-making to prevent illegal practices or those outside our framework of ethical action.

- We are continuing our commitment to **dialogue with all our stakeholders**. It helps us to listen to their concerns and needs and identify future trends to build trust and therefore increasingly consolidate our relationship with them. At the same time, it is an ideal way of transparently showing and exchanging our assessments and our fields of action as well as the challenges we face in our management of sustainable growth. The debates are held in periodic meetings and using various channels of communication.

Our stakeholders include: workers, cooperative members, clients/passengers/citizens, suppliers/external collaborators, the environment and institutions and society as a whole.

- **Priorities for Sustainability:** We evaluate our ESG priorities periodically depending on their importance for our business and stakeholders and how they impact on the business model and the opposite. In short, we determine our priorities using a **materiality analysis** (done using various sources of information), to ensure that our sustainable strategy is aligned with the expectations and to facilitate a greater impact on all of them.

The results of the Sustainability Priorities for 2021, 2022 and 2023 were closely examined for this report.

Our Prioritising Procedures:

- **Analysis:** We review the latest opinions about Sustainability issues for frameworks and good practices for (fundamentally the United Nations Global Compact), relevant non-gubernatorial organisations, industry bodies and academia. We analyse requests from our clients regarding Sustainability and new priorities. For example, as part of proposals or supplier compliance reviews.
- **Benchmarking:** We learn from other organisations through get-togethers where we exchange experiences as well as through consulting information about recent and emerging ESG questions among our peers, competitors and other international organisations.
- **External Consultations:** We gather opinions from the primary stakeholders, including ecosystem partners, NGOs, academics, etc. about the proposed Sustainability priorities and to be able to classify them in terms of importance.
- **Internal Consultations:** In a process led by the CEO and facilitated by the Sustainable Competitiveness Manager, we work directly with the Management Team (and other relevant people and teams) to identify potential changes in our ESG priorities.

A process of listening to people at Irizar was done between 2020 and 21 to understand what they were most concerned about. It was done using interviews and questionnaires as described in chapter "4. We create value for our People".

Most of our Sustainability priorities are interrelated with each other and have continuity over time. We are showing our [**Sustainability priorities**](#) in October 2023 here:

0. GLOBAL GOVERNANCE (Transparency, Good Governance and Integrity)

1. **TRANSPARENCY** Sustainability report + [NEW communication on progress](#) PM (COP)
2. Awareness raising + [TRAINING](#) in Sustainability
3. [KPIs](#) - Leadership/management team commitment and monitoring for progress
4. Keep reinventing ourselves towards Sustainable and Intelligent [MOBILITY](#)
5. **INTEGRITY:** Companies and [HUMAN RIGHTS](#) Managing the most serious risks for people
6. **INTEGRITY:** Improve the culture of [ETHICS AND COMPLIANCE](#)
7. **INTEGRITY:** [GENDER EQUALITY](#) Plan and Harassment Protocol improvement
8. **INTEGRITY:** Make progress with the [RESPONSIBLE SUPPLY CHAIN](#) with suppliers and other external parties involved

- In December 2022 we decided **to drive our progress in human rights forward** to prepare ourselves for the future European Sustainability due Diligence Directive for companies to respect human rights and the environment in global supply chains.

To those ends, and with backing from top management, People Management and the Sustainable Competitiveness manager at Irizar, we participated in the **Business & Human Rights Accelerator programme of the United Nations Global Compact** that is designed to give companies the tools and knowledge they need to create a continuous due diligence process for human rights and make sure they are respected. That training facilitates our progress with our commitment to and practices regarding human rights, to prevent risks and avoid injury to people.





Since October 2023, the Spanish UN Global Compact has given us the opportunity to belong to a **continuos Learning Group about Human Rights**. Since then, in addition to learning with experts and getting support materials, we can share experiences, knowledge and challenges with 45 other companies that are already working hard on human rights. Without a doubt, it will contribute to make progress more easily in integrating our commitment regarding Human Rights into our value chain, both in the strategy and in operations, to prevent risks and avoid injuries to People.

At the end of 2023 we included the following in our Sustainability priorities: **HUMAN RIGHTS - Managing the most serious risks for people** As the first thing to put it into action, we agreed on the first draft of the Human Rights Policy for the Group, which was agreed upon by the president, Human Resources Director and the Sustainable Competitiveness Manager. In 2023, we shared it with the CEO of the Irizar Group to improve it and keep making progress with the next steps in 2024.

In collaboration with the other corporate governance bodies, the top management keeps providing encouragement and being vigilant so the **commitment and sustainable actions**, beyond people who work at Irizar, are **extended among the rest of the stakeholders** (clients, suppliers, external collaborators, government, etc.).

We are moving Forward in Transparency, Good Governance and Integrity

We are moving Forward in **Transparency, Good Governance and Integrity**. Therefore, we rely on our open culture and our firm conviction that only business activities that respect Corporate Ethics and Sus-

tainability onstitute the only possible foundation for achieving sustained business success beyond compliance with internal regulations and applicable legislation (local, regional, national, foreign, and international).

Throughout this chapter, we address in particular our common tools to facilitate our **Good Governance**.

- Along those lines, a first draft of the **Code of Ethics** was created in 2017. The improved version of our code of ethics, created by the Governing Council alongside the Management Team, was approved by all the worker-members in a General Assembly in 2020. The new Code of Ethics was a new version of our Ethical Principles and Guidelines for Behaviour. It is the roadmap for everyday behaviour based on fundamental principles (Human Rights, Labour Standards, the Environment and the fight against Corruption).

In parallel, the **Ethics and Compliance Committee** was created to analyse all the communications they receive in a reasonable period of time.

- In 2023 we started the **improvement of the Ethics and Compliance System** (Common Cooperative Values, Code of Ethics, crime prevention system, channels of communication, channels for reporting infractions, communicating incidents and actions), and the **System for protecting personal data and guaranteeing digital rights**. The goal is to take into account the evolution of patterns of Sustainability, legal modifications or new risks that were not previously considered.

Any improvement to the Corporate and Ethical Values will be common for all the people in the companies of the Group.

- In section "4.5.1 Gender Equality", in chapter 4 About People, you can see details about the **improved equality plan** and in the **sexual and the gender based harassment in the workplace Protocol**.

Transparency contributes to improving our credibility, reputation and brand, which increases the confidence our stakeholders have in us. To those ends, we are making public all the information you need to know more about Irizar.

As we will see in the following chapters, we have multiple channels of communication with stakeholders, including our **Sustainability Reports** discussed in the following section



We make strategic alliances and partnerships with the Global Compact to drive Sustainability

In addition to all the agreements and alliances that we will address in subsequent chapters of the Sustainability Report, we can highlight our double link with the **United Nations Global Compact**, around the world and in Spain.



At Irizar S.Coop, we have been firmly committed to the **United Nations Global Compact**, the largest voluntary initiative for Corporate Sustainability in the world, since 2013. We use it as a frame of reference for all our strategic advancement in Sustainability and it strengthens our deep commitment to transparency through our annual Sustainability report and communication on progress (COP).

Since 2018, we have been partners of the **Global Compact Network Spain** (multi-stakeholder association that acts as a focal point for the United Nations Global Compact in Spain). Proactive participation enables us to show a greater commitment to Sustainability, interact with the main agents of change (not only at the Spanish level but also internationally), generate shared values between the company and its environment, learn and share best practices, and strengthen relationships with stakeholders.

A. Annual Sustainability Report and Communication on Progress (COP)

The **communication on progress (COP)** is an obligatory annual public statement by companies that participate in the UN Global Compact for their stakeholders. It has the following goals:

- Promote accountability for company sustainability performance to help maintain the integrity of the UN Global Compact initiative
- Promote continuous learning and contribute to boosting performance in company sustainability
- Improve stakeholder access to information about the implementation of the Ten Principles by participating companies and their contribution to achieving the Sustainable Development Goals (SDGs)

Until 2022 our **Sustainability Report** was the COP we presented to the Global Compact.

Since 2023 we have participated in the **new communication on progress (COP) policy**, with the updates added in 2022 in consonance with **the mission of the United Nations Global Compact to "create a global movement of sustainable companies and organisations to create the world we want"**. Thousands of companies from more than 160 countries have voluntarily committed to showing our progress on a new online platform to help identify gaps and set goals to improve sustainability performance every year.

The improved communication on progress requires us to present the following online (on the United Nations Global Compact website):

- a. A **statement by the general director** that expresses continuous support for the United Nations Global Compact and

- b. filling out an **online Questionnaire** about the companies' activities related with the Ten Principles and the SDGs.
- c. In addition to those requirements, our 2022 and 2023 **Sustainability report** includes our 2022 and 2023 Sustainability reports.

All of that is available at: <https://unglobalcompact.org/what-is-gc/participants/19510-IRIZAR-S-COOP->

The standardised **questionnaire** shows the progress made in the areas of governance, human rights, labour standards, the environment and the fight against corruption. It increases our transparency and we hope it lets the participating companies:

- build credibility and brand value by showing our commitment to business sustainability, the ten principles and the SDGs;
- measure and show our progress in a coherent and harmonised way;
- receive information, learn and continuously improve performance;
- compare the progress of equivalent companies through access to one of the biggest free public sources of data about business Sustainability in the world.

B.Irizar interacts with other organisations and actors (Spanish and international)

As a member of the Spanish Global Compact Network, Irizar S. Coop. interacts with other organisations and actors (Spanish and international), for the purpose of creating shared value and strengthening relationships with stakeholders. They participate in various activities, like training sessions, work sessions organised by the Global Compact and the Spanish government, open-doors days at Irizar to share experiences with companies, education centres and universities and SDG benchmarking to learn from other companies, among other things.

- In 2018, we can highlight our participation in a work session organised by the Spanish Global Compact Network and the **Spanish government** with the goal of:
 - a. Articulating and elevating the experience of the business sector insofar as the future action plan and national strategy for contributing to the 2030 Agenda and the Sustainability of the Spanish government
 - b. Specify the role of companies in sustainable development and help the Spanish government prepare its evaluation as a country for the high level policy forum of the ECOSOC held in July at the United Nations



- In 2019, we celebrated 15 years of leadership in Sustainability with the Spanish Global Compact Network, as it is the local network with the most signatories to the UN Global Compact and is a world benchmarking to learn from other companies, among other things.

mark, which is notable for its operability and strength. An event was held where we can highlight the participation of Cristina Gallach, High Commissioner for the 2030 Agenda of the **Spanish government**, with whom Irizar had the privilege of exchanging opinions about the 2030 Agenda and the need for alliances between the public and private sectors in order to achieve the SDGs.



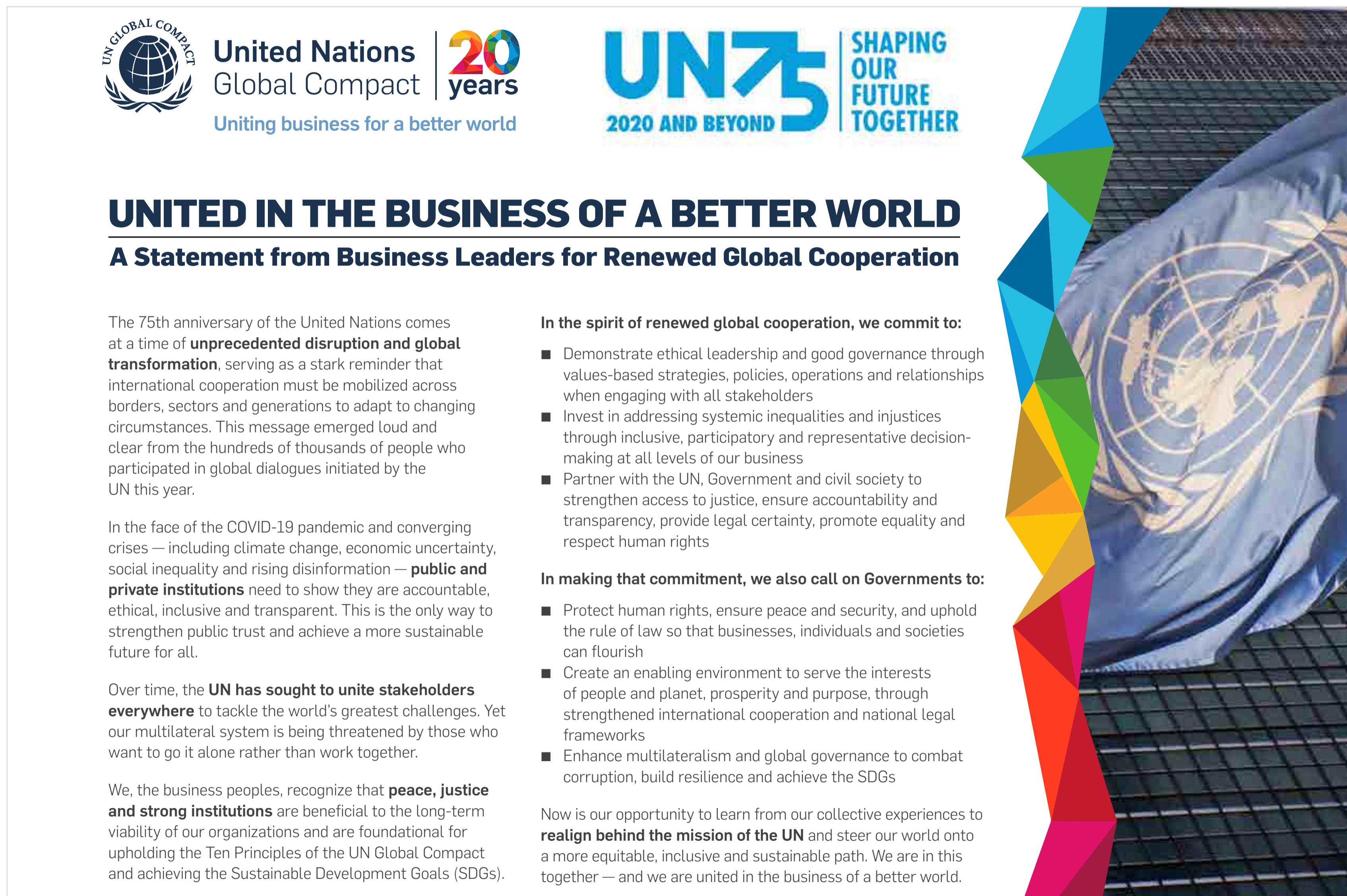
- For six months in 2021 we participated in the **SDG Ambition** accelerator programme from the United Nations Global Compact. It was a **training** programme to help us set ambitious SDG (sustainable development goal) goals and integrate them into our organisation. You can see more details in section "2.4. Committed to the SDGs of the UN 2030 Agenda".

- As we discussed in detail above, from January to September 2023 representatives from Irizar participated in the **Business & Human Rights Accelerator programme** of the United Nations Global Compact.

Since October 2023, the Spanish UN Global Compact has given us the opportunity to belong to a **continuous Learning Group about Human Rights**. In addition to learning with experts and getting support materials, we can share experiences, knowledge and challenges with 45 other companies that are already working hard on human rights. Without a doubt, it will contribute to make progress more easily in integrating our commitment regarding human rights into our value chain, both in the strategy and in operations, to prevent risks and avoid injuries to people.

C. Irizar collaborates with United Nations publications and declarations

- In 2020, the CEO of the Irizar Group (along with 1000 business leaders from more than 100 countries) made their support for the United Nations and multilateralism visible and even signed an ambitious **“declaration in favour of renewed global cooperation”** as part of the commemoration of the **75th anniversary of the UN**. The declaration maintains its relevance given the state of the world in 2021. The updated list of signatories is on the United Nations website: https://ungc-communications-assets.s3.amazonaws.com/docs/publications/UN75_UnitingBusinessStatement.pdf
- In 2022, the Spanish UN Global Compact remarked in their interesting interactive publication **“SDG Year 7: Innovation to achieve the 2030 Agenda”**, presented in September 2022 to celebrate the 7th



UNITED IN THE BUSINESS OF A BETTER WORLD

A Statement from Business Leaders for Renewed Global Cooperation

The 75th anniversary of the United Nations comes at a time of **unprecedented disruption and global transformation**, serving as a stark reminder that international cooperation must be mobilized across borders, sectors and generations to adapt to changing circumstances. This message emerged loud and clear from the hundreds of thousands of people who participated in global dialogues initiated by the UN this year.

In the face of the COVID-19 pandemic and converging crises — including climate change, economic uncertainty, social inequality and rising disinformation — **public and private institutions** need to show they are accountable, ethical, inclusive and transparent. This is the only way to strengthen public trust and achieve a more sustainable future for all.

Over time, the **UN has sought to unite stakeholders everywhere** to tackle the world's greatest challenges. Yet our multilateral system is being threatened by those who want to go it alone rather than work together.

We, the business peoples, recognize that **peace, justice and strong institutions** are beneficial to the long-term viability of our organizations and are foundational for upholding the Ten Principles of the UN Global Compact and achieving the Sustainable Development Goals (SDGs).

In the spirit of renewed global cooperation, we commit to:

- Demonstrate ethical leadership and good governance through values-based strategies, policies, operations and relationships when engaging with all stakeholders
- Invest in addressing systemic inequalities and injustices through inclusive, participatory and representative decision-making at all levels of our business
- Partner with the UN, Government and civil society to strengthen access to justice, ensure accountability and transparency, provide legal certainty, promote equality and respect human rights

In making that commitment, we also call on Governments to:

- Protect human rights, ensure peace and security, and uphold the rule of law so that businesses, individuals and societies can flourish
- Create an enabling environment to serve the interests of people and planet, prosperity and purpose, through strengthened international cooperation and national legal frameworks
- Enhance multilateralism and global governance to combat corruption, build resilience and achieve the SDGs

Now is our opportunity to learn from our collective experiences to **realign behind the mission of the UN** and steer our world onto a more equitable, inclusive and sustainable path. We are in this together — and we are united in the business of a better world.

anniversary of the 2030 Agenda, on Irizar's sustainable and intelligent mobility with one of our videos.

It was gratifying to be one of three organisations chosen in all of Spain in the sector and be able to talk about **our experience in innovation to contribute to making the SDGs of the 2030 Agenda a reality, which are not add-ons, rather they are our business**. They help us focus what we do so we can be a global actor in sustainable mobility, because for Irizar it is a transversal goal especially aligned with four of our high priority SDGs:



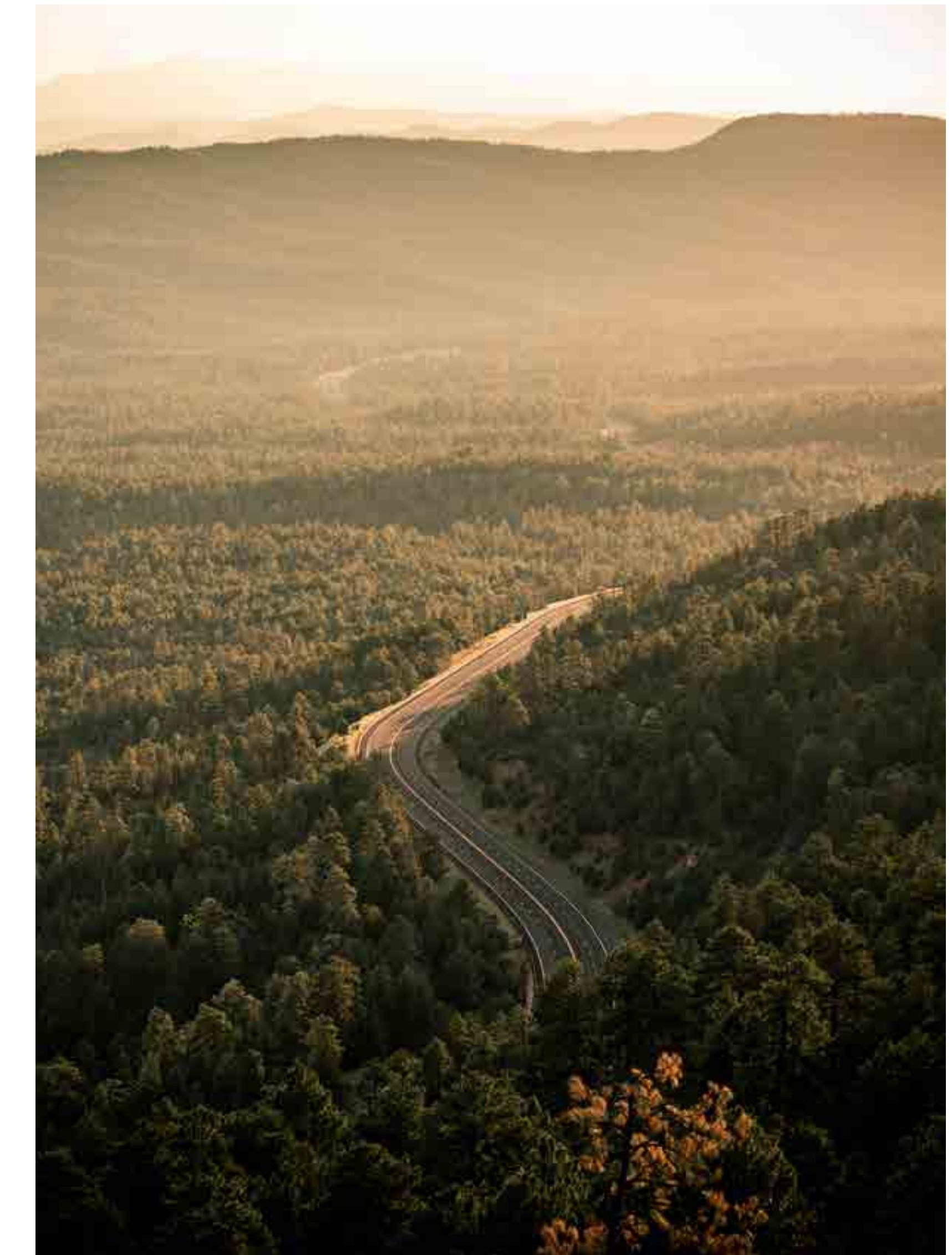
All of that can also be seen in chapter 3 about clients, passengers and citizens.



You can see the complete publication [here](#).



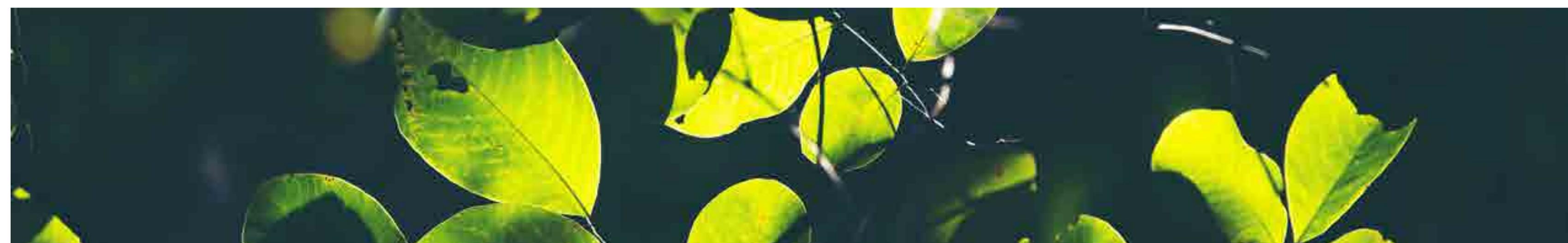
- At the proposal of the Spanish UN Global Compact, in 2023 Irizar participated in the "Business Ambition and Innovation: Keys for accelerating the impacts of Sustainability" seminar organised by the Global Compact and 3M. At the "Accelerating the 2030 Agenda contribution with ambition" round-table, the Sustainable Competitiveness Manager addressed the issue of Innovation for Sustainable and Intelligent Mobility, which is a key issue for Irizar insofar as the new challenges the future of mobility holds for us. Speakers from several organisations also participated in the seminar, as well as high-ranking representatives from the Spanish UN Global Compact.



D'Irizar publicises and supports the SDGs in Global Compact campaigns

Every year Irizar participates in the **SDG support campaigns promoted by the Global Compact**. To publicly reinforce the value of their commitment to the United Nations 2030 Agenda, in 2023 Irizar joined the [#ODSporbandera](#) campaign launched by the Spanish UN Global Compact. The campaign is part of the [#TogetherfortheSDGs](#) international initiative driven by the UN Global Compact that several countries around the world participate in with the goal of having different actors from around the world act out their commitment to the sustainable development goals (SDGs) on the date of the midway point of their lifespan.

In that way, the flag of the SDGs is raised as a powerful emblem representing the commitment to a future that is sustainable and prosperous for everyone. It is a gesture independent of nationality, affiliation or position that seeks to synchronise efforts and goals, uniting a commitment that is much larger than everything that separates us. It is a flag that inspires us to move forward together. By raising the flag, Irizar is making a commitment more actively than in editions prior to achieving results, giving priority to the well-being of people and the planet. Along those lines, Irizar has established a number of commitments and best practices aligned with their strategy.



We contribute to raising awareness about Sustainability throughout society.

Beyond the dynamic collaboration with the Global Compact, we lead or participate in various actions and forums to contribute to awareness raising and education for our stakeholders and society as a whole. To the dynamics shown here with a global vision of Sustainability, we can also add others that are more related with people from Irizar, clients, suppliers or the environment, which are shown in later chapters.

A. Mainly since 2018, and in different ways, we contribute to awareness raising and training for our stakeholders and all of society:

- We proactively add our grain of sand to the Agenda Euskadi Basque Country 2030 promoted by the Basque government for the Basque contribution to the 2030 Agenda.
- Except the hiatus of the pandemic, we often share our experience in sustainability:
 - a. In **open-doors events at Irizar** (with companies, education centres and universities),
 - b. through **benchmarking** in Sustainability and SDGs to learn and share with other companies,
 - c. we participate in various **external forums** related with Sustainability in university and business settings. Among them we can highlight the event we participated in as speakers at "Responsible business and strategic CSR management", held at the Deusto Business School. We talked about what the step from seeing social responsibility as philanthropy to Sustainable Competitiveness was like at Irizar and seeing responsible business as the way

to coherently integrate sustainable development into our entire management system.

B. Since 2021, the Sustainable Competitiveness manager at Irizar was invited to participate every month in the **Ethics Applied to Management Seminar** at the university of Deusto, where alongside academics and managers from other organisations issues that, from their experience, are tackled that are key to integrating ethics into companies. The seminar is dynamised by the **DIRECTICA learning community**, which coordinates the transfer team of the Centre for Applied Ethics on which people in management roles participate on in a personal capacity.

With the understanding that ethics is the basis of Sustainability, it is a privilege to be able to learn from experts and people from different organisations and share points of view. The focus of the Centre of Applied Ethics of the university of Deusto is notable: no relativism or dogmatism, eclectic, concepts and organisational culture.



In 2022 the **DIRECTICA Conference II** was held with an external audience in the auditorium at the university of Deusto, Bilbao. Begoña Román Maestre, philosopher and expert in organisational ethics, helped us understand the challenges presented to companies by the current crisis and the possible approaches to analysing their responses to them ethically. After her presentation, at the request of the director of DIRECTICA the Sustainable Competitiveness Manager shared her thoughts alongside the speaker and facilitated dialogue with attendees of the event.

We participated in a session with the expert Gemma Galdon Clavell in 2023 organised by the Centre of Applied Ethics at the University of Deusto about "**The ethical challenges raised by artificial intelligence**", which is more and more important and is making a bigger and bigger impact on Sustainability.



C. Our involvement in education is especially relevant. In 2022 and 2023 the Sustainable Competitiveness manager gave **dynamic workshops about our focus on Sustainable Competitiveness** with:

- **The University of Deusto:** Final year students in business administration and management alongside double majors in law and computer science



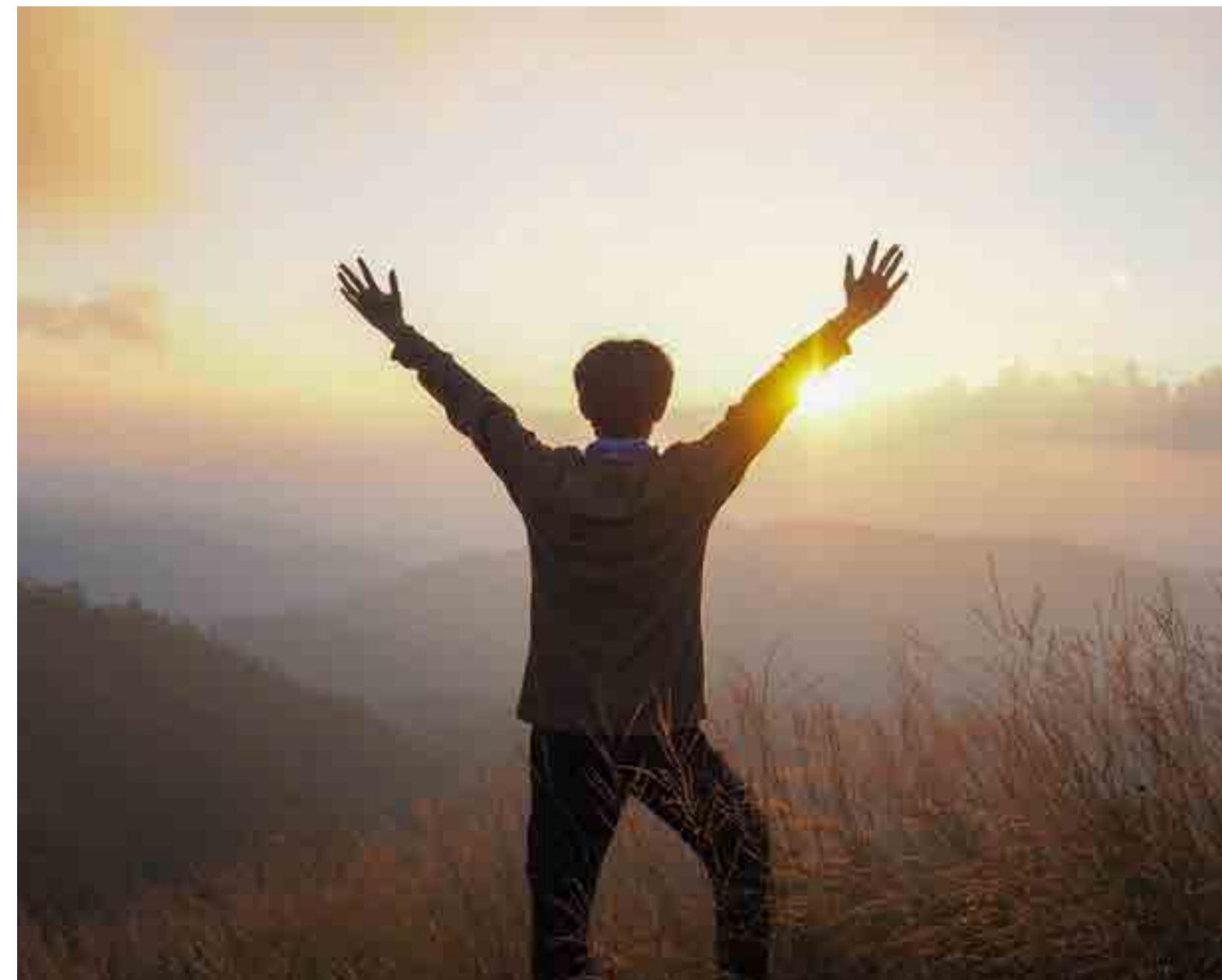
- **Luzern HochSchule:** Professionals studying in Switzerland who take the opportunity of their exchange trip with European business schools. In that case, they are accompanied by the university of Deusto to our facilities.



Everything starts by sending them a SUSTAINABILITY DOSSIER (it is a summary of concepts and trends that is valuable for understanding the current situation and future trends of sustainability), along with a CHALLENGE that they have to do in groups and give a response in the meeting. **How can I CREATE MY OWN SUSTAINABLE COMPANY?**

2.3. Commitment to the Principles of the Global Compact

Although in this 2023 Sustainability Report we can reflect Irizar's commitment to each Principle of the United Nations Global Compact in more sections, this table shows the relationship with those where it is most relevant.



AREA	PRINCIPLE	RESPONSIBLE WITH
 HUMAN RIGHTS	Principle 1 Businesses should support and respect the protection of internationally proclaimed fundamental human rights within their sphere of influence	2. Irizar and Sustainable Competitiveness 4. We create value for our people 7. We create value for Society
	Principle 2 Businesses should ensure that their companies are not complicit in human rights abuses	5. Irizar and Sustainable Competitiveness 3. We create value for our clients, passengers and for citizens 6. We generate value for our external collaborators, supply chain and alliances.
 LABOUR	Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	4. We generate value for our people - Company board, regulations for Internal arrangements and collective agreements 5. We generate value for our external collaborators, supply chain and alliances - Sustainability requirements for our suppliers
	Principle 4 Businesses should support the elimination of all forms of forced or compulsory labour	4. Irizar and Sustainable Competitiveness 5. We create value for our People - People. Key actors in Sustainable Competitiveness - Commitment to high quality employment 6. We generate value for our external collaborators, supply chain and alliances - Sustainability requirements for our suppliers
	Principle 5 Businesses should support the abolition of child labour	4. Irizar and Sustainable Competitiveness 5. We create value for our People - People. Key actors in Sustainable Competitiveness - Commitment to high quality employment 6. We generate value for our external collaborators, supply chain and alliances - Sustainability Requirements for our suppliers
	Principle 6 Companies must back the abolition of discriminatory practices at work and in employment.	4. Irizar and Sustainable Competitiveness 5. We create value for our People - People. Key actors in Sustainable Competitiveness - Gender equality, diversity and social inclusion 6. We generate value for our external collaborators, supply chain and alliances - Sustainability Requirements for our suppliers



Below, in section "2.4.1. Including the SDGs into our 2030 Irizar Agenda", we show the block of principles it is related with for each KPI.

AREA	PRINCIPLE	RESPONSIBLE WITH
 ENVIRONMENT	Principle 7 Businesses should maintain a preventive approach to environmental challenges	2. Irizar and Sustainable Competitiveness 3. We generate value for our clients, passengers and for citizens – Race to Zero – Decarbonisation: in internal combustion vehicles with hybridisation, zero-emissions electromobility and green hydrogen as an energy vector. 5. We generate value for our external collaborators, supply chain and alliances – Decarbonisation: in internal combustion vehicles with hybridisation, zero-emissions electromobility and green hydrogen 6. We create value for the environment
	Principle 8 Businesses should undertake initiatives to promote greater environmental responsibility	2. Irizar and Sustainable Competitiveness 3. We generate value for our clients, passengers and for citizens – Decarbonisation: in internal combustion vehicles with hybridisation, zero-emissions electromobility and green hydrogen 5. We generate value for our external collaborators, supply chain and alliances – Sustainability Requirements for our suppliers 6. We create value for the environment
	Principle 9 Businesses should encourage the development and dissemination of environmentally friendly technologies	3. We generate value for our clients, passengers and for citizens – Reducing emissions, electrification and alternative energy sources 6. We create value for the Environment
 ANTI-CORRUPTION	Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery	2. Sustainable Competitiveness - Our Sustainable Competitiveness 4. We create value for our People - People. Key actors in Sustainable Competitiveness – Communication, transparency and participation 5. We generate value for our external collaborators, supply chain and alliances – Sustainability Requirements for our suppliers

2.4. Committed to the SDGs of the UN's 2030 Agenda

Summarizing what we have already addressed earlier in this chapter regarding our Commitment to the SDGs of the 2030 Agenda:

In 2018 **we began our approach to the United Nations 2030 Agenda**, and we made our **commitment to contributing to the SDGs public**.

In 2020 **we made progress in incorporating** our contribution to achieving the SDGs, which are the roadmap for driving prosperity for people and the planet, into our strategy and management.

1. Even though our goal is to contribute to achieving the 17 SDGs, upon analysing our strategy for generating value for our stakeholders, we believe that Irizar, because of the nature of our business and extensive value chain, **can have a greater capacity for influencing the SDGs**, which is explained below.

2. At the 2020 summer assembly (where we dealt with global strategy and company progress and that was open to everybody at Irizar A. Coop.), the **CEO presented the 7 Sustainable Development Goals (SDGs) of the 2030 Agenda** that have been chosen by Irizar as **high priority and transversal**.

PRIORITY SDGs

We make a direct impact through our operations



Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all people equally.



Build resilient infrastructures, promote inclusive and sustainable industrialisation and drive innovation



Make cities and human settlements inclusive, safe, resilient and sustainable.



Guarantee sustainable consumption and production patterns.



Adopt urgent measures to combat Climate Change and its effects.

Transversal SDGs

They are the backbone of our commitment (to Ethics, Law and Human Rights), cutting across all internal areas and all stakeholder groups.



Achieve gender equality and empower all women and girls.



Promote just, peaceful and inclusive societies.



**OBJETIVOS
DE DESARROLLO
SOSTENIBLE**

Irizar supports the Sustainable Development Goals

SDG GOALS TO BE ADDRESSED

PRIORITY SDGs						
						
8.1. Maintaining economic growth 8.2. Raising productivity through diversification, technology and innovation 8.5. Achieving full employment and decent work 8.7. Eradication of slavery, trafficking and child labour 8.8. Protection of labour rights and safe work	9.2. Promotion of inclusive and sustainable industry 9.4. Infrastructure modernization, clean technology 9.5. Increase in scientific research, technological capacity 9.B. Development of national technology and research in developing countries.	11.2. Providing access to public transport 11.6. Reduction of environmental impact in cities.	12.2. Achieving the efficient use of natural resources 12.4. Managing chemical waste and products 12.5. Prevention, reduction, recycling and reuse of waste 12.6. Adoption of sustainable practices in businesses 12.8. Ensuring education for Sustainable Development 12.B. Achieving sustainable tourism	13.1. Strengthening resilience and adaptation 13.3. Improving environmental education and awareness		
TRANSVERSAL SDGs						
						
5.1. Ending discrimination 5.5. Ensure the full participation of women and equal leadership opportunities	16.2. Eradication of child abuse, exploitation, trafficking and exploitation. 16.5. Reducing corruption and bribery 16.7. Promoting citizen participation 16.10. Access to information and fundamental freedoms 16.11. Promotion and application of laws and policies (Human Rights)					

The 7 **priority and transversal SDGs** are those that, due to their importance and impact, we are going to pursue with the greatest ambition to work on Irizar's commitment to achieving the 2030 Agenda. To those ends, we chose **26 goals** for each one in order to set the most ambitious **goals** and indicators possible aligned with the 2030 Agenda and make progress towards achieving them.

The SDGs are interrelated, so when we take action on the priority and transversal SDGs we also make an impact on the rest, which we call **secondary SDGs**, in an indirect way through our operations (to a greater or lesser extent), or because their essence is contained in other SDGs that have already been dealt with.

In 2021 and 2023, as we explained in "2.2.4 We are a responsible organisation", we can highlight **training in Sustainability and SDG/2030 Agenda** for the management team and president given by the Sustainable Competitiveness manager. The involvement and leadership of the management team is fundamental for making progress towards putting Sustainability in practice transversally not just secondarily. Training in it will subsequently be promoted and it will also be spread to leaders and the rest of the people in the organisation. The commitment is important for achieving the goals set for the future.

In 2021 we participated in the **SDG Ambition accelerator programme from the United Nations Global Compact**, as we mentioned in section "2.2.3. We are a responsible organisation", alongside more than 700 international companies for six months. It was a pioneering **training** programme with a new methodology to help us set ambitious SDGs (Sustainable Development Goals) and integrate them into the centre of our strategy and operations and measure our progress, so we can definitively contribute to the prosperity of people and the planet.

In addition to Irizar representatives participating in the SDG Ambition programme, the **CEO of the Irizar Group** reaffirmed our commitment as a high level "**Ambassador**" in monitoring our progress.

Further information on SDG Ambition can be found at: <https://unglobalcompact.org/news/4593-09-21-2020>

And in the Dossier created by the Spanish Global Compact Network: <https://www.pactomundial.org/biblioteca/sdg-ambition-resultados-i-edicion/>

2.4.1. Including the SDGs into our 2030 Irizar Agenda

In the first quarter of 2021 we did an exhaustive analysis of possible indicators we could use to make progress in **integrating the SDGs into our 2030 IRIZAR AGENDA**. It is a **BASE document** in table format to facilitate setting SDG GOALS and high Priority + Transversal goals, including possible indicators, data up to now and goals/commitments. It facilitates understanding the scope of every SDG better and focusing the groundwork they require better, because the 2030 Agenda is an action plan that favours people, the planet, prosperity, peace and collective work. In addition to contributions by the Sustainability manager, the draft of the table includes contributions by the CEO, Environment and External Communications.

It was centred on our high priority (8, 9, 11, 12 and 13) and transversal (5 and 16) SDGs, including their relationship with the **PRINCIPLES** of the Global Compact, and for every GOAL decided upon, an inventory of possible qualitative or quantitative contributions/INDICATORS:

- Some indicators will only be for tracking progress.
- However, the ones we deem to be the most relevant/indispensable should have realistic but ambitious TARGETS based on what are called "SMART goals" (specific, measurable, achievable, relevant and time-related).
- And with a time limit: DATE and taking the baseline of the commitment into account (a point or period in time from which measurements are made).

- There are also columns for data from the most recent years that are used to help see the progress and set goals.

The SDG indicators and goals are not an annual management plan and, even though we can set annual targets, the idea is to set long-term milestones and intermediate goals/deadlines to show our commitment to the 2030 Agenda.

At the end of 2021, with the active involvement of the CEO, we defined priorit actions to start our contribution to the high Priority and Transversal SDGs. It would be started after 2022: setting related goals, indicators, objectives and deployment with various managers and teams from the affected areas: CEO, Product Development (innovation and engineering), the Environment, Purchasing and relationships with Suppliers, Production, People-HR and other entities in the cooperative, etc.

In late 2022, led by the CEO and facilitated by the Sustainability manager, Irizar S. Coop. took an important step in their progress towards integrating Sustainability and the SDGs of the 2030 Agenda into their business strategy. With the conviction that greater involvement of management is the way to make things happen in Sustainability, the entire Management Team started participating in setting 24 KPIs for measuring our impact and to set specific medium-term goals starting in 2023 to contribute to



the 2030 Agenda and the principles of the Global Compact.

Our commitment can be encapsulated in INDICATORS (priority KPIs) for measuring IMPACT, many of which have realistic but ambitious GOALS centred on our 7 priority and transversal SDGs, as well as the principles of the Global Compact.

They are grouped into 6 [IMPACT AREAS](#):

- [A. CLIMATE](#)
- [B. RESOURCES](#)
- [C. TRUST AND INTEGRITY](#)
- [D. EQUALITY](#)
- [E. DECENT WORK](#)
- [F. EXTENDING SUSTAINABLE DEVELOPMENT](#)

In late 2023, the KPIs were integrated into the long term and yearly Strategic Plan, operations, including monitoring by the CEO with the management team, the president and the Sustainable Competitiveness Manager. To those ends, for every KPI we specified:

- **Manager or managers for the OBJECTIVE:** Given that most of the KPIs are transversal, we have tried to specify all the related managers, and who is expected to respond to progress.
- **Person/area provides DATA, task or knowledge:** The same as the managers, there can be several areas/people, so we have determined who provides the data.
- **FREQUENCY** of reviews and who

All the KPIs are shown here, although in following chapters we will take another look at the KPIs most closely related with every stakeholder group.

A. CLIMATE

Take action for a positive climate world

Continuously investing and developing innovative solutions that provide immediate and long-lasting Decarbonisation results. Especially for reducing the GHG of our vehicles for all the years our clients use them.

The actions and details related with KPI 1, 2 and 3 are discussed in chapter 3. KPI 3 is also discussed in chapters 4, 5 and 6, and KPI 4 in chapter 6

B. RESOURCES

Be efficient in resource usage

Behaving responsibly and making the most of technology to preserve our planet

The actions and details related with KPI 5 and 6 are discussed in chapter 3. KPI 7 and 8 are discussed in chapter 6.

C. TRUST AND INTEGRITY

Live up to our principles of trust and integrity

Keeping ourselves, and everyone around us, to high social, governance, and ethical standards

The actions and details related with KPI 9, 10 and 11 are discussed especially here in chapter 2 and in chapter 4. KPI 12, 13 and 14 are discussed in chapter 5.

D. EQUALITY

Create equal opportunities for everyone

Ensuring that everybody is valued, work in an inclusive environment with equal opportunities regardless of gender to develop and give the best of yourself

The actions and details related with KPI 15, 16 and 17 are discussed in chapter 4.

E. DECENT WORK

Productive work for women and men under conditions of liberty, equity, safety and human dignity

The actions and details related with KPI 18, 19, 20 and 21 are discussed in chapter 4.

F. EXTENDING SUSTAINABLE DEVELOPMENT

Train people at Irizar and other external people/organisations in Sustainability and raise their awareness of it Commitment to collaboration for development

The actions and details related with KPI 22 and 23 are discussed here in chapter 2. KPI 22 is also discussed in chapter 4. KPI 23 is also discussed in chapters 3, 5, 6 and 7. And KPI 24 is discussed in chapter 7.

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

SUSTAINABILITY REPORT 2023

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
B. RESOURCES										
 LABOUR	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	5. Eco-innovation Models with an Environmental Product Declaration (EPD) and/or Life Cycle Analysis (LCA)	Names of products with EPD and/or LCA % products sold with environmental labelling (LCA/EPD) / range of products manufactured	i4 Integral		ie bus NG		54Ah and 65Ah batteries	i6 Efficient i3 Hydrogen 100% future	2024 2025
		In addition to vehicles sold by Irizar S. Coop, the indicators for KPI 1 also include ones from Irizar e-mobility, thus having a greater scope than the KPIs that are only for Irizar S. Coop.					10%	20%	32% 35%	2027 2028
	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	6. Recyclability and recoverability rate of vehicles at the end of their useful life (only for models that have an EPD)	% weight recyclable material / total weight (Tm) % weight recoverable material / total weight (Tm)	96.03% 98.26% I4 integral					85-100% 85-100%	2024 Eff 2025 hid 2024 Eff 2025 hid
		7. Waste reused (using reuse, recovery and recycling processes) Sum of waste bound for waste manager and bound for our IZIR brand	% weight assessed waste / Total waste generated (Tm)		53%	60%	63%	61%	>60% annual	2020 - Annual
 ENVIRONMENT	 13 CLIMATE ACTION	8. Improving electrical energy efficiency in our centres	Kwh consumed / working days / units billed tCO ₂ / working days / units billed		46.63	26.1	19.3		39.55 (5% in 4 years) 1% annual	2025 2026-7
					0.0126	0	0.00187	0	0	2022-27 maintain

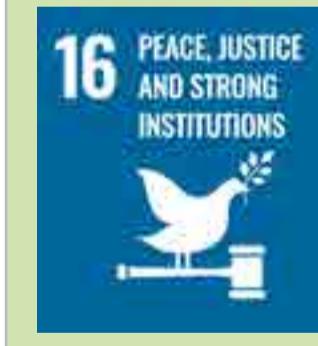
BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
C. TRUST AND INTEGRITY										
			9. Level of confidence of people at Irizar to report unethical behaviour	Average % value Survey / Total workforce (0-100%)					60% 80%	2024 2030
			10. Train/raise awareness of people at Irizar CULTURE Ethics and legal Compliance:							
			• Ethical Code, ethics and compliance system	% people trained / Total						2025
			• Crime prevention system	% people trained / Total people in high risk areas						2025
			• System for protecting personal data and guaranteeing digital rights	% people trained / Total						2025
			• New hires trained in the code of ethics and ethics and compliance system	% people trained / Total new hires						2025
			11. Training people from companies from the Irizar Group in ethics and legal compliance:	% companies trained / Total						2026
			a. Branch offices	a.						100%
			b. Other coach companies in the Group	b.						Set priorities and deadlines by type
			c. Rest of Group companies	c.						
										Base year: 2024

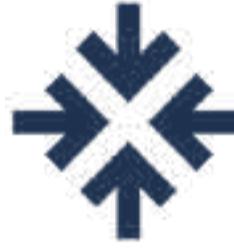
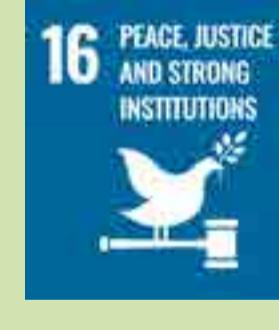
 BASE YEAR: year data in **blue** if later shown in OBJECTIVE

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
C. TRUST AND INTEGRITY (cont.)										
 HUMAN RIGHTS	    	<p>12. Making progress towards a responsible supply chain with SUPPLIERS committed to Sustainability</p> <p>Strategic suppliers (A + B) with a SUSTAINABLE CONTRACT</p> <ul style="list-style-type: none"> a. New suppliers with SUSTAINABLE CONTRACTS b. A+ B strategic suppliers c. Suppliers with the most risk of infringement <ul style="list-style-type: none"> o in human rights (to be specified) o the environment (to be specified) 	No. suppliers % ACCUM. A+B	17 13.6%	34 27.4%	39 31.5%	41 33.9%	49 37.4%	a. 100% c. 100%	2024 --- 2026---
 LABOUR		<p>13. Evaluate/monitor our SUPPLIERS with higher Sustainability priority</p> <ul style="list-style-type: none"> • Questionnaires ANALYSED from environmentally vulnerable suppliers <p>Suppliers with the highest risk of infringement:</p> <ul style="list-style-type: none"> • in human rights • environmental 	NO. suppliers evaluated ACCUM. % vulnerable suppliers evaluated	13 48%	16 59%	18 82%	25 96%	specify high-priority human rights + MA EU due diligence directive	Base year: 2023	Set goals according to human rights + MA priorities
 ENVIRONMENT		<p>14. Making progress towards a supply chain Manager with a commitment to Sustainability from other external involved parties:</p> <ul style="list-style-type: none"> a. distributors b. commercial partners c. clients... 	% organisations trained / Total	a. b. c.				100%	2026	Set priorities and deadlines by type
 ANTI-CORRUPTION										Base year: 2024

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE	
D. EQUALITY											
	 5 GENDER EQUALITY	15. Increase gender diversity in:	a. hiring b. the Management Team (group 1+2) c. Management area/ middle management (group 4+5+6) d. Governing council	% women % women % women % women	26.32% 0% -- 0%	17.07% 0% --- 11.11%	22.22% 0% 21.00% 22.22%	9.52% 0% 21.00% 22.22%	18.60% 0% 21.00% 11.11%	10-20% 20% 20-30% 20%	2030 2030 2030 2030
	 8 DECENT WORK AND ECONOMIC GROWTH	16. Reduce the wage gap between women and men	Group 1 + 2 (CEO + Management Team) Group 3 (management) Group 4 (technicians) Group 5 (administrators) Group 6 (direct personnel)	% salary ratio women / salary ratio men	0%	0%	0%	0%	0%	99-100%	2026
	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	17. Train/Raise Awareness of People at Irizar in Gender Equality Gender Equality Plan Harassment Protocol, etc.	• New hires trained in Gender Equality	% people / Total workforce % people trained / Total new hires					86%	100%	2023 - biannual
	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION							100%	100%	2023 - Annual	Base year: 2023
	 16 PEACE, JUSTICE AND STRONG INSTITUTIONS										

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
E. DECENT WORK										
 LABOUR <p>The International Labour Organisation (ILO) defines decent work as: "productive work for men and women under conditions of freedom, equity, safety and human dignity".</p>		18. Providing a safe and healthy work environment:	No. accidents/hours worked	48.33	34.37	50.22	50.57	56.97	40 - 50	annual
		a. Reduce the frequency rate of accidents	No. accidents / No. people	76.78	48.93	81.83	81.76	85.98	70 - 80	annual
		b. Reduce the incident rate of accidents								
			19. Worker partners <i>Differential factor compared to NON-cooperatives</i>	% members / AVERAGE total workforce	87.78%	90.03%	97.82%	93.93%	82.68%	Always above 80%
		20. Pay ALL our workers at least a living wage <i>Global Compact definition of a living wage: https://bit.ly/3r57Wq6</i>	% salary / living wage Compared with the <u>metal collective bargaining agreement</u> for the most common positions: - engineer or university graduate (MOI) and - product technician (MOD)						100%	2023 - ...
		21. Increase the people's level of commitment (Includes: Expectations, commitment and feeling)	Average % value Survey / Total workforce (0-100%)						60%	2024
									80%	2030

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
F. EXTENDING SUSTAINABLE DEVELOPMENT										
 HUMAN RIGHTS	       	<p>22. Train/raise awareness of people at Irizar in Sustainability:</p> <ul style="list-style-type: none"> - <u>BASIC</u>: Definition, 10 principles and SDGs - Human and Labour Rights - The environment, etc. <p>Prioritising:</p> <ul style="list-style-type: none"> • Management Team • Managers of: areas, processes or relevant teams • Governing Council • Other indirect staff • Rest of people at Irizar <ul style="list-style-type: none"> • New hires 	<p>% people with BASIC training / Total workforce</p> <p>No. people with more specific training</p> <p>% people with BASIC training / total new hires</p>			8 ED		11	1.23% 100% Base year: 2023	2025
 LABOUR								0%	No. people to prioritise as applicable	Since 2024
 ENVIRONMENT		<p>23. Contribution to improvement in the sustainability of other external people and organisations (public and private). Irizar S. Coop. is located</p> <p><u>Sharing our knowledge of and experience with Sustainability</u> in forums and training and awareness raising activities:</p> <ul style="list-style-type: none"> • High priority stakeholders (to be specified): Clients, suppliers, distributors, etc. • Group coach companies • Other Group companies • Students, external organisations and other people in the social environment 	<p>no. actions / year</p>	8	12	25	43	50	Minimum 20 actions / year	annual
 ANTI-CORRUPTION		<p>24. Social Commitment with Cooperation Development Activities</p> <p>Includes: NGOs and associations that do work to benefit education, health and gender equality and to eradicate poverty, hunger and inequalities</p>	<p>% € Development cooperation activities / € total designated for not-for-profit activities</p>	55%	50%	42%	56%	50.24%	50% minimum	annual

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

The goal of making Sustainability a strategic pillar at Irizar is to **inculcate responsible behaviour** at all levels of the organisation and ensure that the SDGs are progressively integrated into all areas of the company.

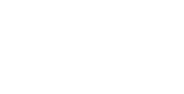
These commitments are what will allow us to achieve a **greater positive impact on all our stakeholders**.

Without a doubt, **the shared leadership of everybody at Irizar** is focused on deploying and involving the entire organisation more easily.

2.4.1. Relationship between the SDGs and the chapters of this report

The following table shows how the SDGs relate (to a greater or lesser extent) to the chapters of this Report.



		We create value for:								We create value for:					
SDGs	Sustainable Competitiveness	Customers, passengers and citizens,	People	External partners, supply chain, and alliances	Environment	Society	SDGs	Sustainable Competitiveness	Customers, passengers and citizens,	People	External partners, supply chain, and alliances	Environment	Society		
PRIORITY															
															
															
															
								Addressed in SDG 8, 12 and 13							
								Addressed in SDG 12							
TRANSVERSAL															
								Addressed in SDG 13							
								Addressed in SDG 5, 8 and 16							
															
															
								Addressed in Priority SDG							

WE GENERATE VALUE FOR OUR CLIENTS, PASSENGERS AND FOR CITIZENS

Contributing to the SDGs and goals
of the UN 2030 Agenda:

Priority SDGs



- 8.1. Maintaining economic growth
- 8.2. Raising productivity through diversification, technology and innovation.



- 9.2. Promotion of inclusive and sustainable industry
- 9.4. Infrastructure modernization, clean technology
- 9.5. Increase in scientific research, technological capacity.



- 11.2. Providing access to public transport
- 11.6. Reduction of environmental impact in cities.



- 12.6. Adoption of sustainable practices in businesses
- 12.8. Ensuring education for Sustainable Development
- 12.8. Achieving sustainable tourism



- 13.1. Strengthening resilience and adaptation
- 13.3. Improving environmental education and awareness

Transversal SDGs



- 16.5. Reducing corruption and bribery
- 16.10. Access to information and fundamental freedoms

3



WE GENERATE VALUE
FOR OUR CLIENTS,
PASSENGERS AND
FOR CITIZENS

3

3.1. A Key Actor in Sustainable and Intelligent Mobility

- Global forces that are revolutionising sustainable transport.
- Sustainable transport technologies
- Our vision of sustainable and intelligent mobility
- Commitment to clients, passengers and citizens, integrating the 2030 Agenda SDGs
- Innovation, it's in our DNA.
 - PERTE VEC "CAPITAL" project
 - Irizar in "SDG Year 7 Innovation for achieving the 2030 Agenda"
- Race to Zero
- European leader in eco-innovation

3.2. The customer, at the heart of our strategy

- Irizar customer-oriented
- Supporting them from start to finish
- Their opinion and expectations are fundamental.
 - Clients are the key factor in our future projects
 - The customer, integrated in internal processes.
 - Always informed
 - Quality and After Sales Forums. Satisfaction surveys
 - Driver training
- Meeting us at international fairs

3.3. Decarbonisation: in combustion vehicles

- 3.3.1. Irizar i6S Efficient, the most efficient coach in Irizar's history.
- 3.3.2. Irizar i4 lightened: efficient, sustainable and profitable
- 3.3.3. Irizar brand integral coaches.
- 3.3.4. Natural gas (CNG and LNG) coaches.

3.4. Decarbonisation: with hybridisation

- 3.4.1. Irizar Brand Hybrid Coaches
- 3.4.2. Hybrid Coaches on Chassis

3.5. Decarbonisation: Electromobility at the Irizar Group, zero-emissions

- 3.5.1. Integral electromobility solutions
- 3.5.2. Range of electric vehicles
- 3.5.3. Irizar batteries
- 3.5.4. Battery second life and recycling
- 3.5.5. Careful management of resources
- 3.5.6. Charging infrastructures

3.6. Decarbonisation Green Hydrogen as an energy vector

- 3.6.1. Long distance electric coaches with green hydrogen batteries
- 3.6.2. Electric trucks with green hydrogen batteries

3.7. Safety and Driverless Vehicles

- 3.7.1. Passenger safety comes first
 - Active Safety
 - Passive Safety
 - Solutions for preventing the spread of viruses on public transport
 - New Driving Assistance Systems.
- 3.7.2. Cybersecurity
 - Connected Intelligent Vehicle (CIV)
 - UN cybersecurity regulations for vehicles 155 and 156
 - CIBERBUS project
- 3.7.3. Towards driverless vehicles
 - Previous advancements
 - DIGIZITY
 - SHOW

3.8. Connectivity - Big Data

- 3.8.1. Fleet manager
- 3.8.2. Maintenance

3.1. A Key Actor in Sustainable and Intelligent Mobility



Buses and coaches play a crucial role in achieving the sustainability goals of the European Green Deal, and in the efficient transition towards decarbonisation and climate neutrality by 2050. **Buses are one of the modes of transport that generates the least greenhouse gasses.** And, as you can see on the chart in the "Our Vision of Sustainable and Intelligent mobility" subsection, in terms of CO₂ emissions, buses generate less emissions per passenger and kilometre than any other

mode of ground or air transport, except electric bicycles. In fact, figures from the European Environment Agency show that almost all CO₂ emissions associated with road transport are not produced by bus transport. Sustainable mobility has become one of the transport priorities of the future, a motto that we make our own and that is an element of the strategic decisions that we are adopting in the Irizar Group.

Today, after 134 years, we understand our ability to respond and adapt successfully to different challenges, by making a continuous effort to position ourselves at the forefront and improve the experience, safety and sustainability of public transport and by offering a customised service and quality. We also understand our flexibility in meeting the needs of our customers and our commitment to remaining closer than ever to everyone, to offer the best of ourselves.

The main global trends have a radical impact on the transport ecosystem that will be fundamentally transformed in the coming years. We believe that this change will be deeper and will happen faster than previously thought in the sector.

ECOSYSTEM OF FUTURE TRANSPORT

GLOBAL FORCES	TRANSPORT TECHNOLOGIES
<ul style="list-style-type: none"> • Sustainability / Decarbonization • Urbanization • Digitization 	<ul style="list-style-type: none"> • Reducing emissions, electrification, alternative fuels and hydrogen • Driverless vehicles • Connectivity

At Irizar we aspire to be a benchmark in the change towards a sustainable transport system. We rely on our financial strength and experience in mobility, which makes it easier to continue following the path of innovation, contributing our knowledge in the development of new technologies, solutions and services that guarantee a more sustainable future in economic, social and environmental terms.

The following is an in-depth review of the strengths and technologies of the transport ecosystem that we are approaching. In the following sections we explain how we are facing the three major trends in the sector at Irizar.

Global forces that are revolutionising sustainable transport

A climate crisis, urban population growth, and technological disruption - three of the global forces shaping a sustainable transportation revolution. We live in a period of unprecedented change. **The turmoil caused by Covid-19 or violent conflicts are just examples of the many challenges facing the world, from growing social inequality to the threat of climate change.** The political landscape is equally volatile. Meanwhile, global initiatives such as the European Commission's Green Deal are accelerating the transition to a sustainable low-carbon economy.

Decarbonization

The escalating climate crisis is a major threat to the ecosystem and society of our planet. The transport sector is one of the world's highest

energy consumers and it contributes 23% of energy-related greenhouse gas emissions and 18% of all anthropogenic emissions in the world economy. To achieve the goal of the Paris Agreement and avoid catastrophic increases in global temperatures, radical action is required from both government and business to decarbonize the transportation sector.

The *European Green Deal* places the energy and green transition at the heart of political action. The objectives of the programme include achieving a CO₂ emissions free EU in 2050 and the development of clean, reliable and affordable energy. To achieve this, it establishes a wide package of measures that enable, among other things, advances in transport sustainability. Currently, transport consumes a third of all final energy in the EU, with most coming from oil. Accordingly, it is responsible for a quarter of greenhouse gas emissions. The objective is, therefore, to reduce the emissions from road transport, trains, boats and aeroplanes by promoting the use of cleaner, more efficient and healthy public and private transport.

At the same time, the world must guarantee that this transition is managed in a way that benefits all of society so that no one is left behind, in line with the UN 2030 Agenda for sustainable development to which Irizar is committed.

As public awareness increases and carbon legislation and policies evolve, demand from transport service providers and users for cleaner and fossil-free forms of transport grows. **And it will grow more and more because, while not everything is urgent, taking care of our planet is.**

Urbanization

The world is experiencing the largest wave of urban growth in history and 2.5 billion people are expected to live in cities by 2050.

This population growth is far outpacing the growth of public transport services. As cities grow and become more populated, so does the pressure on urban transport infrastructure, thus increasing the risk of air pollution and other major health and environmental impacts, such as traffic noise and an increased risk of traffic accidents. There is also the risk that access to transport services will become more limited, disproportionately affecting people from vulnerable groups.

The challenges of urbanization demand resilient transportation infrastructure and solutions that keep people and goods moving, and ensure that the cities of the future are healthy, safe, inclusive, and liveable.

Digitization

We are living through the fourth industrial revolution, an era of radical and disruptive technological change, in which digital trends such as the Internet of Things, robotics, virtual reality and artificial intelligence are transforming the way we live and work.

Digitization is impacting business models within the transport sector, so that products, production processes and supply chains have to be more

interconnected. Emerging technologies drive innovation and create new opportunities and risks, such as challenges to personal integrity, cyber-security and ethical dilemmas throughout the value chain.

Sustainable transport technologies

These global forces are creating an **urgent need for sustainable transport**: clean, safe, efficient, inclusive and resilient.

Likewise, they are shaping the tools and technologies that the transportation industry is using to respond to this demand. There are new technologies that, together, are accelerating the shift towards a sustainable transportation system that is electrified, uses alternative fuels and hydrogen as an energy vector, and is autonomous and connected.

Electrified

Electrification is essential in a sustainable and decarbonized transportation system. Electric vehicles run cleanly and quietly, with zero particulate and NOx (nitrogen oxides) emissions and a very low total carbon footprint (electricity from fossil-free energy sources. Battery technology is improving rapidly and other solutions, such as fuel cell technology, are being developed. One relevant issue is the origin of the electrical energy used. It is important that the origin is renewable, so alliances between clients and energy suppliers become more important.

While electrification has significant benefits for our climate and air quality, it also brings new sustainability challenges. It puts increasing pressure on the battery raw material supply chain, creating environmental and human rights risks. To be truly sustainable, these risks must be managed carefully.

The mass adoption of electric vehicles depends on an infrastructure with widely available charging solutions. Those of us in the transport industry must play an active role in developing that infrastructure and work in association with infrastructure suppliers, electricity producers and governments.

Hydrogen as an energy vector

In regards to heavy urban transport (where our buses are used), electrification using batteries is the obvious expectation. In intercity and long distance transport (where our coaches are positioned), hydrogen is expected to become a strong competitor with the technologies mentioned above.

Hydrogen was identified as a potential solution for a clean fuel for the future decades ago. Previous attempts were thwarted by abundant oil reserves, low fossil fuel prices, and the advancement of battery-powered light electric vehicles, which, among other issues, dampened expectations of hydrogen deployment.

We are experiencing a transition towards an era of sustainable energy gases, and it is expected that during the second half of the 21st century their consumption will exceed both coal and oil and, by the end of the 21st century, energy gases (methane and hydrogen) will have consoli-

dated, like coal at its peak, more than 75% of the world energy market. Among the sectors where hydrogen has a higher potential for use is mobility (as an alternative to electric batteries). The main advantages of hydrogen are low emissions, driverless vehicles and recharging speed, as well as efficiency and maintenance costs.

Generally speaking, to date we have used energy very inefficiently, especially in the transport sector. Current internal combustion vehicles only reach 20 - 25% autonomy, part of the energy is dissipated as heat. The efficiency of internal combustion engines can be increased up to 30% with hybrid technology, but to exceed this threshold, alternative technologies must be chosen. In hydrogen fuel cell vehicles, this efficiency is around 30-35% from generation to consumption.

Two of the important points for using hydrogen as a relevant agent in the energy transition will be transforming the production model to use processes based on renewable energy that create what is called **“green hydrogen”** and **“blue hydrogen”**.

The hydrogen market is still evolving, with different players in its value chain. At Irizar we are already actors in it.

Renewable fuels

Sustainable transport depends on sustainable energy. While electrification is playing an important role in meeting this need, several studies show that renewable fuels are key to decarbonizing in the here and now, at the pace required to meet the goals of the Paris Agreement. It is a solution that provides greater flexibility in the scalability of the supply network.

Renewable fuels such as biofuel, biodiesel and HVO (Hydrotreated Vegetable Oils = diesel from hydrotreated vegetable oils that eliminate the emission of sulphides), in combination with energy efficient combustion propulsion systems, or used in conjunction with electricity in hybrid propulsion systems, can reduce a vehicle's total well-to-wheel carbon emissions by up to 90%, compared to fossil diesel.

Because biofuels (and agricultural waste) can come from organic material, they also back circular models of energy storage.

Rapidly increasing the use of renewable fuels is key to achieving the carbon reductions we need to see in the short term. As almost all vehicles on the road today can already run on renewable fuels, the potential reduction in emissions is enormous, and it also provides the profitability of sustainable solutions for transport providers.



Driverless Vehicles

The rapid evolution of artificial intelligence and other technologies has paved the way for driverless transportation. Automation has great potential to transform mobility.

Safety is also an important factor. Likewise, highly automated vehicles could revolutionize public transport services, by reducing congestion, improving access to mobility and making our cities safer and more liveable.

Vehicles with high levels of automation are already being tested and, at the same time, automated buses are operating in urban or suburban settings in several European cities.

Connected

Digitization is bringing tremendous growth in vehicle connectivity, with vehicles continually producing and sharing data. Connectivity can be a key enabler for driverless transportation, allowing vehicles to communicate with each other and with the surrounding road infrastructure, making transportation smarter and more efficient.

Connectivity also brings significant benefits to transportation logistics, with real-time data allowing users and manufacturers to track how vehicles are being used and operated with much greater precision, enabling more efficient flows. Connectivity also enables maintenance times to be optimized, maximizing uptime, reducing fuel consumption and improving overall efficiency.

Our vision of sustainable and intelligent mobility

The mobility of the future will be different from what we see today. Technology at the service of public needs and sustainability goals will undoubtedly bring about disruptive changes, some of which can predicted while others are yet to be discovered.

Our current vision sees the mobility of the future as sustainable, safe, smart and connected, with the presence of vehicles powered by different energy sources, increasingly efficient and with different levels of range and services that will improve people's experience.

At the Irizar Group we aim to become a key player in facing these challenges, putting our capacity and technology at the service of society, forging alliances (suppliers, network of local technology centres, institutions, universities, training schools, etc.) and seeking out partners. It ratifies our commitment to the health and well-being of people, the environment, and to creating better urban environments.

We are committed to mass public mobility, to reducing the level of polluting emissions, connecting means of transport for better fleet management, improving information to users and introducing new technological developments to enhance the safety and experience of passengers.

In this context, technology is key and our Group positioning strategy is to **promote innovation and the creation of our own high technology** in strategic sectors with the aim of providing pioneering solutions so that we can anticipate successfully future challenges and positively impact on wealth creation and employment and the development of society and the economy.

All of that will demand **high flexibility and capacity for adaptation**. Our current and future development hinge on the following keys:

Sustainable Mobility

Change is coming in urban environments towards smart cities that are more liveable and sustainable and where mobility and transport play a crucial role.

In the markets we operate in we are working with our clients and other partners to make collective passenger transport a sustainable reality. Irizar has become an **important reference in coaches and buses and has established itself in markets where it is currently present**.

Passenger transport will be emission-free, but for a while there will be a combination of transitional technologies, ranging from electric powered, or propulsion by natural gas or hydrogen. The latter, which is an alternative and green source of energy, is mostly for long distance vehicles.

In this sense, Irizar is continuing to make progress in offering alternatives that reaffirm our commitment to sustainability that began years ago. We have a wide range of solutions that include zero-emissions urban buses and trucks and hybrid, diesel, biodiesel, HVO, biofuel, natural gas (CNG and LNG) and hydrogen coaches. An extensive range of options covering all market : urban and suburban buses and medium- and long-distance coaches for both regular and discretionary services and Premium.

This coach manufacturing strategy does not prevent us from continuing to work closely with chassis manufacturers, with whom we have common interests, and with whom we continue to increase our presence in both European markets and in the rest of the World.

Another of the great challenges of the future is the generation of clean, inexhaustible energy, without radioactive waste or the use of non-renewable fuels. At the Irizar Group, we are positioned in three business areas: nuclear fusion, renewable energies and energy storage and management, which is indispensable for reaching the zero-emission goals. Developing low-emissions technologies in passenger transport requires, in turn, institutional support for developing infrastructure.

Shared and Collective Mobility

It is believed that BEV (electric) and FCEV (hydrogen) buses and coaches are the largest part of the market in 2035 in Europe:

- 60% of the coach segment in 2035
- 80% of the intercity segment in 2035
- 100% of the urban segment in 2035

Irizar range of buses and coaches



Electric
Hybrid
Diesel
Biodiesel
HVO
Biogas
Natural Gas (GNC and GNL)
Hydrogen

Market segments:
Urban vehicles (truck and bus)
Suburbans
Medium and long distance

Regular, discretionary and premium services

Choice of Irizar branded integral vehicles or combination of body and chassis available on the market.

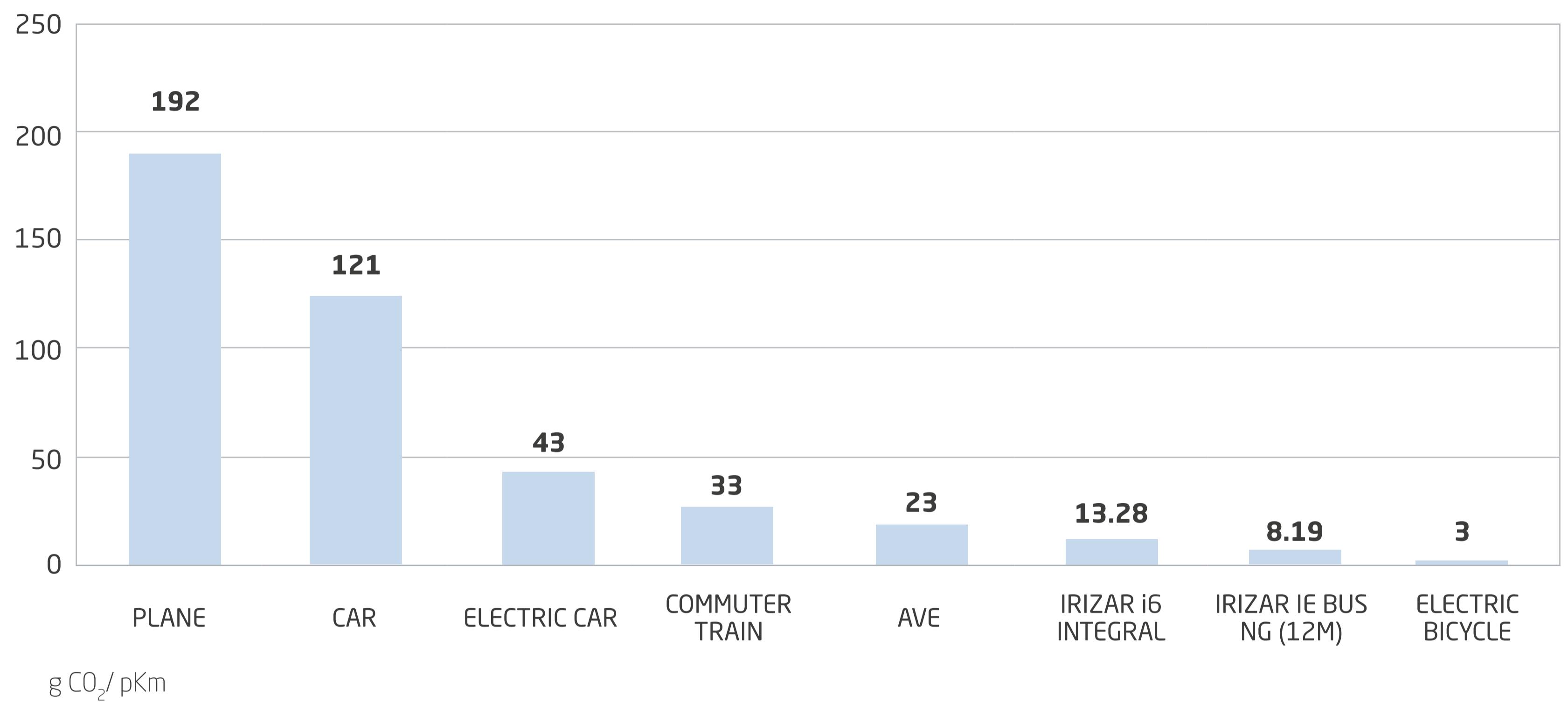
There are studies that assert that in **2050** we will have a fleet of 4.1 million heavy vehicles in Europe (truck + bus), almost the same as in 2018. Likewise, we estimate that we will have diverse drive technologies in buses and coaches:

- Medium and long distance:
 - Diesel: at least 25% (with 30% hybrid)
 - Electric: 35%
 - Hydrogen (hydrogen and electric engine with a hydrogen fuel cell): 40%
- Urban: primarily electric

Promoting the use of public transport and researching and improving alternative fuels are the main challenges that we chose to prioritise some time ago. Public transport is a fundamental economic sector, both for the contribution of the wealth and employment it generates, and for its dynamic nature in society, facilitating the mobility required by daily life. It has a beneficial impact on the health system, due to better air quality and reduced noise emissions.

Collective public transport is the major alternative for substantially reducing emissions, because:

- A bus can transport as many people as 50 cars.
- Buses are the most used form of public transport in the world and the one with greatest capillarity.
- It has been shown that cars are only used 5% of the time and that must be optimised.
- According to a study by the **IDAЕ (Institute for Energy Diversification and Savings)** and the emissions of our vehicles, the comparison of the carbon footprint between buses and coaches and other means of transport is very advantageous (g CO₂ per km passenger transported).



(*) for electric modes the CO₂ emissions associated with generating the **electricity consumed during use** are taken into account even though at the point of use no polluting emissions or CO₂ are generated.
In addition, they generate a significantly lower acoustic **impact** than their thermal equivalents.

Because of that, at Irizar we do not rule out the fleet of buses and coaches in Europe increasing by **2050** with a more significant increase in the urban and intercity segment.

Commitment to clients, passengers and citizens, integrating the 2030 Agenda SDGs

As we set forth in chapter 2, about Irizar and **Sustainable Competitiveness**, in 2023 we kept improving our impact on the high-priority KPIs in our commitment to the SDGs of the 2030 Agenda. Consequently, we have decided to prioritise our sustainable value contribution to our clients, passengers and citizens in:

A. CLIMATE: three KPIs for: - Increasing the Sustainability of the vehicles sold - Boosting R&D for low GHG emissions products and - Reducing scope 3 category 5 indirect GHG emissions associated with the use of our vehicles by clients (the latter can be seen in detail in the chapter about the environment)

B. RESOURCES: two KPIs for: Eco-innovation (products with an environmental product declaration - EPD or life cycle analysis - LCA) and recyclability and recoverability rates for those vehicles at the end of their useful lives

F. EXTENDING SUSTAINABLE DEVELOPMENT: We defined a KPI with our commitment to contributing to improvement in external (public and private) people and organisations, extending the "oil stain" of Sustainability beyond our organisation to our stakeholders. Sharing our knowledge and experience with Sustainability in various forums, as well as through Sustainability and awareness raising activities, at the same time that we encourage our clients to buy more sustainable vehicles.



PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
A. CLIMATE										
		1. Increase the Sustainability of the vehicles sold (lower GHG emissions) <i>hydrogen, 100% electric, hybrid, LNG/CNG, low fossil fuel consumption (i6s efficient and i4 lightened)</i>	% UNITS sold of MORE SUSTAINABLE vehicles / total yearly sales				34.3%	40.5%	67.3%	75%
		In addition to vehicles sold by Irizar S. Coop. the indicators for KPI 1 also include ones from Irizar e-mobility, thus having a greater scope than the KPIs that are only for Irizar S. Coop.	% UNITS sold of MORE SUSTAINABLE vehicles / total average sales for the last 5 years		15.03%	20.30%	33.25%	45.8% 46.2%	2027 2028	
		2. Promote R&D to make progress in Mobility Sustainable and Intelligent • Decarbonization, • Safety -- Driverless vehicles and • Connectivity - Big Data	% R&D for vehicles that are MORE SUSTAINABLE AND INTELLIGENT / TOTAL R&D				100%	100%	100%	Maintain maximum
		3. Reduce TOTAL GHG emissions Includes: Scope 1 and 2: CATEGORY 1: Direct GHG emissions and removals CATEGORY 2: Indirect GHG emissions caused by imported energy Scope 3: CATEGORY 3: Indirect GHG emissions caused by transport CATEGORY 4: Indirect GHG emissions caused by products Irizar uses CATEGORY 5: Indirect GHG emissions associated with the organisation's use of products	tCO ₂ eq				1,713,290 ISO14064-1:2019	1,659,534 (-3%)		-5% 2022 - Annual
									Carbon footprints are verified one year later	

 BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
B. RESOURCES										
 LABOUR	  	<p>5. Eco-innovation Models with an environmental product declaration (EPD) and/or Life Cycle Analysis (LCA)</p> <p>In addition to vehicles sold by Irizar S. Coop. the indicators for KPI 1 also include ones from Irizar e-mobility, thus having a greater scope than the KPIs that are only for Irizar S. Coop.</p>	Names of products with EPD and/or LCA % products sold with environmental labelling (LCA/EPD) / range of products manufactured	i4 Integral		ie bus NG		54Ah and 65Ah batteries	i6 Efficient i3 Hydrogen 100% future	2024 2025
 ENVIRONMENT		<p>6. Recyclability and recoverability rate of vehicles at the end of their useful life (only for models that have an EPD)</p>	% weight recyclable material / total weight (Tm) % weight recoverable material / total weight (Tm)	96.03% 98.26%					85-100% 85-100%	2024 Eff 2025 hid 2024 Eff 2025 hid
F. EXTENDING SUSTAINABLE DEVELOPMENT										
 HUMAN RIGHTS	       	<p>23. Contribution to improvement in the Sustainability of other external people and organisations (public and private). Irizar S. Coop. is located</p> <p><u>Sharing our knowledge of and experience with Sustainability in forums and training and awareness raising activities:</u></p> <ul style="list-style-type: none"> • High priority stakeholders (to be specified): Clients, Suppliers, Distributors, etc • Group coach Companies • Other Group companies • Students, external organisations and other people in the social environment 	no. actions / year	8	12	25	43	50	Minimum 20 actions / year	annual

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

Innovation, it's in our DNA

The strategy based in developing new ideas, that entrepreneurial attitude backed with tool that made us more and more competitive, that boldness in taking on risks or the capacity to learn from mistakes were nothing other than manifestations of the innovative "gene that, for the 134 years of Irizar Group history, have defined our brand, culture and identity.

For us innovation means investing in knowledge, talent and new products and services, new processes, new sustainable technologies and new developments. But it is also the key instrument that lets us make progress in our organisational culture and day to day management, and it makes us not only more agile, flexible and adaptable, but also more capable of overcoming future challenges in a way that will make us always be the preferred choice of our clients.

New times have definitely made us innovate, because the social-health and economic crisis made us provide short-term responses to protect, above all, the health and safety of people and their families and, in the medium and long-term, guarantee the sustainability of the business and creation of value. But it also offers us an opportunity to re-focus and redefine our strategic plans, putting our sights on the major challenges that the energy transformation and new sustainable and intelligent mobility bring us. And, in that scenario, innovation once again becomes key.

From our position at the centre of the energy and sustainability transition, two ideas should be made very clear. **People** are the linchpin on which our energy strategy hinges. And the **innovation** we advocate calls for **strengthening ties and creating a collaborative fabric** among suppliers, local technology centres, institutions, universities and training schools that we can provide pioneering solutions that positively impact the development of society and the economy with.

In that context, the Irizar Group's strategy to drive innovation and create our own technology in future strategic sectors in which we can provide pioneering solutions that positively impact the creation of wealth and employment and develop an industrial fabric in the long-term becomes especially important. The well-known Next Generation funds are a major opportunity to bring European industry back into the technological vanguard.

One of the strategic decisions we have made in the Irizar Group has to do with the role buses and coaches play in achieving the sustainability goals of the European Green Deal and the efficient transition towards decarbonisation and climate neutrality by 2050.

We are committed to collective public transport that is more efficient, to reducing emissions of pollutants and noise, making means of transport connected for better fleet management, improving information for users and introducing new technological developments with the goal of increasing safety and improving passenger experience.



In short, Irizar lives and breathes innovation, it is in the environment, it is in **our DNA**. It is vital to be **a global actor in sustainable mobility**, and be one step ahead of the current and future needs of our stakeholders. And go beyond profitability and try to make a positive impact on people and the planet.

To those ends, we are focusing on **INTEGRAL INNOVATION**:

- on **WHAT** we do (products, services),
- **HOW** we do it (management models, Global Compact focus, alliances, etc.) and
- **WHY** we do what we do (mission: create wealth and employment and commitment to stakeholders; long-term economic Sustainability and ESG Sustainability; with a positive impact on the 2030 Agenda). **The 7 sustainable development goals** we have prioritised are not extras, **they are our business**.

For Irizar, sustainable mobility is a transversal goal especially aligned with **4 priority SDGs**:

- **SDG 9** – Industry, innovation and infrastructure
- **SDG 11** – Sustainable cities and communities
- **SDG 12** – Responsible production and consumption and
- **SDG 13** – Climate action

Not innovating is only viable to survive in the short-term. Innovating in a sustainable way is indispensable to live into the medium-long term.



Since 1889, when we started manufacturing horse drawn carriages, we have seen several **revolutions**. We are now **reinventing ourselves in terms of Sustainable and Intelligent Mobility**, which is comparable to when in 1928 we manufactured our first mechanically powered vehicle. It is not exactly an incremental improvement: it is **total innovation**.

Our primary **CHALLENGE** is to keep developing "traditional" projects alongside new ones focused on zero-emissions, which **IMPACTS** all areas of the organisation, in addition to the **RISK/UNCERTAINTY** of how future technologies will evolve. In other words, it entails the **COMPLEXITY** of managing a future with a multitude of technological solutions that will involve making decisions without knowing whether the future will go in that direction, be it electric platforms, CNG/LNG, hydrogen fuel cells or something else.

It is not an obstacle, rather it is a **CHALLENGE** that will help us innovate faster. We must innovate in the sustainability of our products, making the most of our collaborations/**ALLIANCES** with other relevant actors in our value chain.

Throughout our Sustainability Report, and especially in this chapter, we cover our main R&D projects, but the one we are going to discuss next deserves a special place in innovation.

PERTE VEC "CAPITAL" project

The Irizar Group leads the **CAPITAL** (Technological capacity building and industrial development of the bus value chain and associated infrastructure for decarbonizing the transport sector with zero-emissions solutions) **with economic assistance approved by the CEV SPERT (PERTE VEC)** (Strategic Project for Economic Recovery and Transformation for developing connected electric vehicles). We are part of an ALIANCE with more than 21 domestic companies for promoting another sustainable leap. There are Spanish companies from seven autonomous communities where 61% of the members are SMEs and Iberdrola is our energy partner.

The CAPITAL project is committed to the decarbonization and sustainability of zero-emissions connected transport through creating 100% electric buses and electric industrial vehicles for different urban uses and also consider the use of hydrogen as a solution for collective mobility.

The project will be carried out from 2022 to 2025, and an investment of more than 54 million Euros will be made in projects to achieve a more electrified Spain with the new generation of sustainable vehicles, covering the entire value chain of the vehicles with new designs and solutions and promoting collaborations for essential components.

In that way the Irizar Group is maintaining their commitment to decarbonising the transport sector with zero-emissions solutions and making progress in providing alternatives that reaffirm the commitment to sustainability they started many years ago.

The project, which has had consulting and coordination services from Zabala Innovation during the development process, is made up of Irizar,

Irizar e-mobility, Jema Energy, Masats, Internacional Hispacold, Datik Información Inteligente, Iberdrola, Fundación Cidetec, Edai Technical Unit, Ekide, Sisteplant, Construcciones Mecánicas Jose Lazpiur, Cayata, Epowrlabs, Polirrós, Falcon Electronica, Baleike, Mendiaraiz, Lis Data Solutions, Ingurumenaren Kideak Ingenieria and Owasy Advanced Wireless Devices.

In 2023, we worked on R&D+i for an electric and connected vehicle, for both products and manufacturing processes and digitising them.

Among the sub-projects tackled we can highlight:

A. Electric urban coach (BEV class II)

- The platform was lightened to lower consumption, improve efficiency, etc.
- More efficient and sustainable materials were used.
- A powertrain was developed for intercity profile with different battery technology.
- Processes were improved to reduce their environmental impact (digitisation, AI, digital twin).
- Opportunities for automating processes were identified.
- A new, more efficient, HVAC concept
- Sub-assembly manufacturing with regular suppliers was developed.

B. Hydrogen truck (Irizar ie truck hidrógeno)

- Lightened by 2000 kg

C. Long-distance hydrogen coach (Irizar i6S hidrógeno)

- Aerodynamic analysis
- Analysis of component placement to improve weight distribution
- Complete structural calculation and dynamic analysis
- RLDA

D. A new generation of batteries, taking technological evolution into account

Irizar in "SDG Year 7 Innovation for achieving the 2030 Agenda"

In 2022, the Spanish UN Global Compact highlighted their interesting publication titled "SDG Year 7. Innovation to achieve the 2030 Agenda", presented in September 2022 to celebrate the 7th anniversary of the 2030 Agenda, and Irizar's sustainable and intelligent mobility with one of our videos. We were one of three organisations chosen in all of Spain in the sector and we talked about our experience in innovation to contribute to making the SDGs of the 2030 Agenda a reality, which are not add-ons, rather they are our business. They help us focus what we do so we can be a global actor in Sustainable Mobility, because as we said at the beginning of this section, for Irizar it is a transversal goal especially aligned with four of our high Priority SDGs: SDG 9, SDG 11, SDG 12 and SDG 13.



To see the complete publication: <https://bit.ly/pactomundialorg>

To watch our video:

<https://www.youtube.com/watch?v=2xRpjESqSpM>



Race to Zero

The impact that CO₂ emissions from transportation means have on global warming is a fact. Therefore, every day, we continue to focus all our efforts on advancing and investing in the creation of different technologies in order to offer pioneering solutions to the different mobility needs for the future worldwide. Reducing the impact of our vehicles and eliminating greenhouse gasses and noise emissions is our priority. All of that is in line with the Paris Agreement and the European Green Deal.

Fit for 55 - Goal 55: European climate legislation makes achieving the EU climate goal of reducing emissions in the EU by at least 55% from now to 2030 a legal obligation. The EU countries are working on new legislation to reach that goal and make the EU climate neutral from now to 2050.

VECTO is the standard simulation tool developed by the European Commission. It will be required to use it for determining CO₂ emissions and fuel consumption in the **use phase of heavy vehicles** (trucks, buses and coaches). At Irizar we have collaborated since 2019 with the European Commission in the development of the VECTO pilot phase. We are making significant investments in a new generation of hybrid, diesel and renewable fuel vehicles to reduce the level of CO₂ emissions (fuel consumption) to stay a step ahead of future regulations that will come into force soon and be ready for the required certifications.

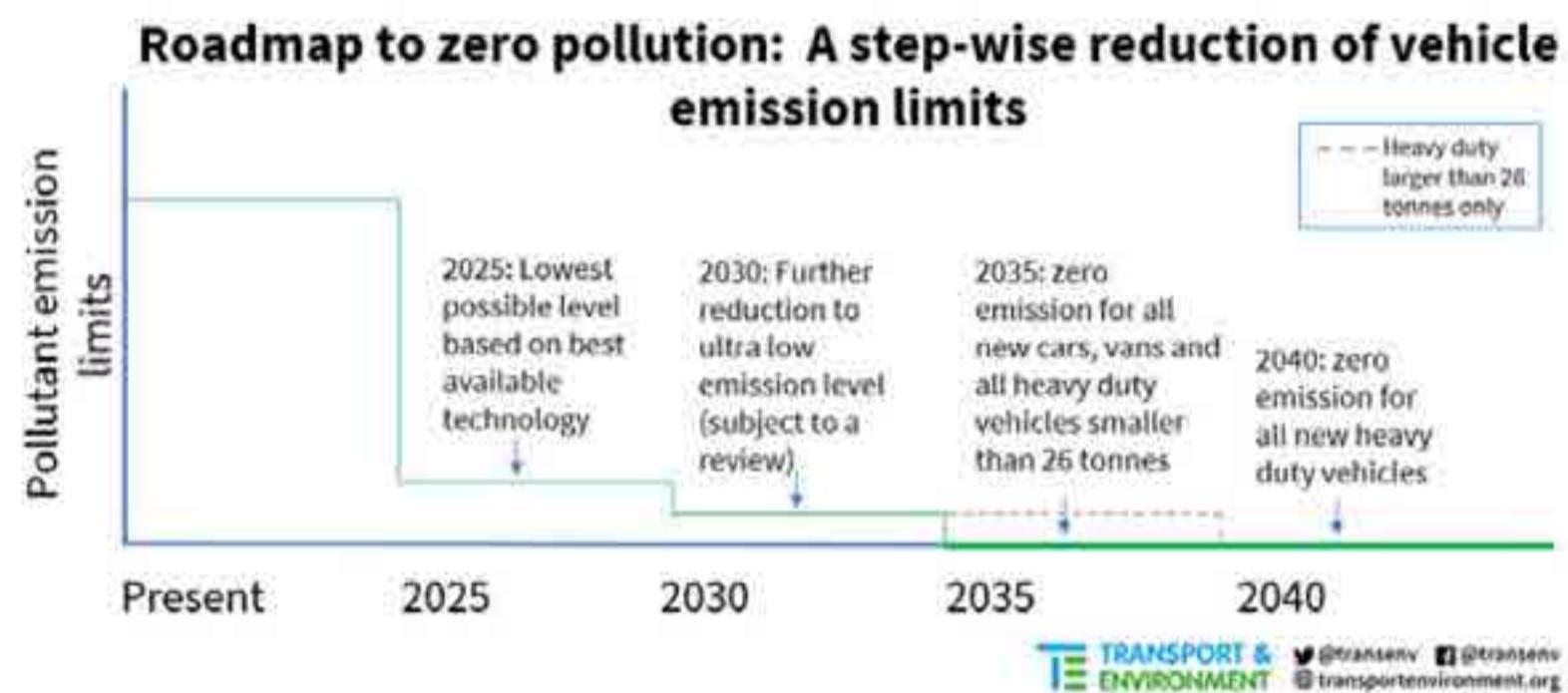
For trucks it is already under way, and for coaches the monitoring phase will enter into force in 2024. All vehicles registered in the EU will have to be fully certified, and their CO₂ emissions derived from a simulation done with the VECTO tool and supported by consumption and emissions data of the real components used for each vehicle must be declared.

Along those lines, in 2023 Irizar obtained the validation of its calculation process, and they are already working with official licenses for use cases with buses, coaches and trucks. The iCert IT system, which makes it possible to automate the calculation process and minimise the risk of human error, was developed for that purpose. The simulations carried out show that Irizar vehicles obtain higher values than the competition, for both bodywork and the powertrain for the integral vehicles.

Road to Zero is the standard for EU emissions for auto-mobiles, vans, buses and trucks. The future "post Euro-6 / VI" standard gives the European Union the opportunity to eradicate pollution from road transport,

regain technological and regulatory leadership, and align standards with its new "Zero Pollution Ambition" with zero emissions of net greenhouse gas by 2050.

European timetable for gradually eliminating polluting vehicles with internal combustion engines



In this area, alongside large European brands Irizar participates in several domestic and European research and development **projects for a new generation of vehicles that pollute less**. The main lines of research are currently focused on aerodynamic improvements; reduction of weight; incorporation of new technologies and materials, HVAC systems; efficiency of the kinematic chain; and electrification, renewable fuels, control, and efficiency of all auxiliary components.



Irizar participates in the [LONGRUN project](#) that is centred on long-distance coaches and trucks. The innovations are developed in the areas of electric-hybrid drive, motors and after-treatment systems for alternative and renewable fuels, electric motors, smart auxiliary systems, generating and storing energy with a renewable origin and power electronics.



- It started in early 2020 within a [consortium of 30 organisations from 13 European Union Countries](#) for developing efficient and environmentally friendly long distance power train systems for heavy trucks and coaches.
- This project is subsidised by the **Horizon 2020** (H2020) framework project of the European Union aimed at research and innovation. The primary mission of LONGRUN is to reduce CO₂ emissions in the heavy transport sector and contribute with tangible results to the EC review of CO₂ emissions standards.
- After doing the test and validation phase for reducing the emissions of the Irizar prototype unit in 2022, the project was successfully finalised in 2023. **The hybrid demonstration vehicle provided by Irizar met the goals of the project for long-distance applications, lowering fuel consumption and CO₂ emissions between 15% and 30% relative to a reference diesel vehicle.**



As we mentioned previously, we currently offer a **COMPLETE RANGE OF** integral, conventional, electric and hybrid **VEHICLES**, always meeting the needs of every client. And we are continuing to invest in alternative technology for the future, such as hybrid technologies with electric autonomy and combustion engines that use alternative fuels, like biodiesel, HVO, biofuel, natural gas (CNG and LNG) and hydrogen.

An extensive range of options covering all market segments, urban and suburban buses and medium and long-distance coaches for both regular and discretionary services and Premium.

We like future challenges, and because of that:

- We have several mobility projects under way with electric vehicles that use hydrogen fuel cells.
- We are already working on electrifying our intercity and long-distance (class II and III) coaches.
- We take a strategic position to improve efficiency and reduce emissions for Irizar brand internal combustion vehicles. A show of that is the GEN3 project in 2023, which is discussed in section "3.3.3. Irizar brand integral coaches".
- And we are prepared for when synthetic fuels become a reality.

As you can see in detail in section "3.3. Decarbonising combustion vehicles", in addition to working on lowering the fuel consumption and GHG emissions of our vehicles through drive technologies and alternative fuels, we also **constantly innovate in aerodynamics and coachwork weight**.

2023 Range of Irizar Vehicles

		LONG DISTANCE						→	URBAN			
		DRIVE TECHNOLOGY	INTEGRAL POSSIBILITY	i8	i6S	i6S efficient	i6	i4 lightened	i3le	le tram	le bus	le truck
MORE GHG EMISSIONS	COMBUSTION	Diesel										
		Biodiesel										
		HVO (hydrotreated vegetable oil)										
		Natural Gas / Compresses Biofuel (CNG)										
	HYBRIDISATION	Hybrids										
ZERO GHG EMISSIONS	ELECTRIC	Electric zero-emissions										
		Electric with range extender (CNG)										
HYDROGEN		Hydrogen with fuel cell										

European benchmark in Eco-innovation

At Irizar, we have spent years relentlessly advancing in research and development in new coach manufacturing technologies and new materials, to be a **European leader at the forefront of eco-innovation and eco-design** during the entire product life cycle.

Ecological design implies the integration of environmental aspects from the very conception of the product in order to limit its impact on the environment. This integration, based on a global approach, must take into account all stages of the product life cycle and the mechanisms aimed at reducing its environmental impact, identifying technologies, ways to improve the choice of materials, and encouraging the use of clean materials.

Environmental Product Declaration (EPD) for the Irizar i4 integral coach

After more than four years applying life cycle analysis (LCA) methodologies and establishing Product Category Rules (PCR) to assess the environmental profile of combustion and hybrid and electric buses, in 2019 Irizar was awarded the **First Environmental Product Declaration (The International EPD System)**, which makes it the **first company in the sector worldwide** to achieve this certification.

Environmental Product Declarations (EPD) have been developed in accordance with ISO 14025 and they add a new dimension in the market, given that they enable information to be provided on the environmental performance or scope of products and services. They are created and registered in the context of the Type III Eco-Labelling Programme under

the International EPD based on the following reference standards. UNE-EN ISO 14040:2006 (Environmental management. Life cycle analysis Principles and reference framework), UNE-EN ISO 14044:2006 (Environmental management. Life cycle analysis Requirements and guidelines), UNE-EN ISO 14025: 201 (Environmental labels and declarations. Type III environmental declarations. Principles and procedures. and Product Category Rules for preparing Environmental Product Declarations for Public and private buses and coaches (PCR 2016-04).

This Product Environmental Declarations project has been carried out on the **Irizar integral i4** model, at 13 metres long, 55 seats, DAF MX 11 E6 diesel engine and ZF robotised gearbox.

In this sense, in addition to the carbon footprint of this coach, we have made a map of its constituent materials (which including, among others, the recyclability and impact on the CO₂ emissions of each one.

EPD declarations provide differentiating advantages to customers and markets as they scientifically and independently evaluate the coach in terms of impact throughout the life cycle, energy consumption of renewable fossil resources at each stage of the life cycle, and pollutant emissions or hazardous substances from manufacturing. It also evaluates the environmental benefits of the product and environmental management or eco-design systems in the organisation or the way to manage the end of life of the product. Furthermore, it contributes to establishing measures aimed at reducing CO₂ emissions and other pollutants of our products, based on the use of materials that are more respectful of the environment, weight reduction, and fuel consumption. Efficient and sustainable driving habits also result in the achievement of these objectives.



CERTIFICATE EPD REGISTRATION

This document is to confirm that

IRIZAR, S.COOP.

has published an Environmental Product Declaration for

IRIZAR I4 INTEGRAL COACH

with registration number S-P-01571
in the International EPD® System.

The EPD has been developed in accordance with ISO 14025, the General Programme Instructions for the International EPD® System and the reference PCR 2016:04. Verification was performed by Tecnalía R&I Certificación, S.L.

This document is valid until 2024-05-17, or until the EPD is de-registered and no longer published at www.environdec.com.



Adam Lewrén
Secretariat of the International EPD® System
Gothenburg, Sweden, 2019-06-03

Environmental Product Declaration (EPD) for the ie bus NG electric bus

The Life Cycle Analysis (LCA) of another one of our products, the 12m **ie bus NG electric bus**, the flagship product for the electromobility plant, was begun in 2020 and was done using the following reference standards: UNE-EN ISO 14040:2006 (Environmental management. Life cycle analysis Principles and reference framework) and UNE-EN ISO 14044: 2006 (Environmental management. Life cycle analysis Requirements and regulations). In 2021, we kept working until we obtained the Environmental Product Declaration (EPD) for the bus, which included calculating the main environmental impacts our product creates during its lifetime, as well as recyclability and recoverability rates for the bus when the end of its useful life arrives.

Energy 54Ah and Energy 65Ah LCA batteries

The slow charge Energy pack has been designed so the vehicle can travel the maximum number of kilometres and complete the operation with a single daily charge.

We have been using Life Cycle Analysis (LCA) methodologies with the **Energy 54Ah** and **Energy 65Ah** batteries since late 2022, so we can measure the environmental impacts associated with their entire life cycle and work on optimising them.

The LCA was done based on reference standards: ISO 14040:2006 (Environmental Management: Life cycle analysis Principles and reference



framework) and ISO 14044:2006 (Environmental Management: Life cycle analysis Requirements and directives) and including the following phases:

- Definition of goals and scope
- Life cycle inventory analysis
- Evaluation of life cycle impact
- Interpretation of the results

Next steps in eco-innovation

We plan to **review and update** the EPD of the Irizar i4 integral coach in 2024, based on the same reference standards.

In 2024, we also did the **Environmental Product Declaration (EPD)** for the Irizar i6S Efficient coach based on the same standards and PCR for the previous models.

In 2024-25, the next steps will be to do the LCA and EPD of the next electric bus model resulting from the evolution of the platform framed by the IRAUNKOR project. In that way, we will be able to quantify the improvement in the environmental performance of our bus as the result of using eco-design strategies, like weight reduction and improvements in energy efficiency.

Our goal is to expand the EPDs to the rest of the Irizar Group's range of vehicles.

3.2. The customer, at the heart of our strategy

Irizar customer-oriented

We are a consolidated industrial project with enormous challenges ahead. The project is based in ethics, transparency and integrity. It is made up of people deeply committed to the clients and innovation is our badge of identity. Out of the conviction that the future will include providing sustainable solutions and our faith in personal talent, we are putting all our effort into **becoming the perfect partner to work alongside transport operators** in the future.

Public road transport is, and will be, key to guaranteeing mobility services and meeting sustainability goals. Consequently, as we said above, we continue to believe in collective public transport to reduce pollution from noise and emissions and make possible the connectivity of means of transport for better fleet management and improve information for users and incorporate new technological developments with the goal of increasing passenger safety. We judge this to be the foundation on which to build all the future projects that operators and society demand of us.

We are positioned in all segments of passenger transport, including occasional transport and urban, medium and long distance intercity and premium transport. And we are leaders in the sustainable mobility sector. Our commitment to providing high added value to its customers,

passengers and citizens is clear in such important aspects as design, customization, safety, operating cost, technology and sustainability.

Our main strategy is customer **satisfaction and loyalty**. Consequently, Irizar means, above all, closeness. We work alongside our clients from defining the product and service they need until the product end of life, providing the guarantee of a robust project they can trust. The flexibility to adapt to their needs and personalisation without limit are factors that set us apart to obtain loyalty. To create long-lasting and solid relationships with clients, a high priority is put on collaborating with *partners* in the long term and making relationships that are sustainable and beneficial for both sides.

Continuing another year along the lines of **personalising our products** to our clients' requirements, in 2023, 15% of the vehicles manufactured were for **public tenders from different countries**, which involved developing different solutions in order to meet the conditions of the tenders. Furthermore, on top of those personalisations, we should add that they were developed on low-emissions chassis, like the hybrid and liquid and compressed natural gas vehicles.

The rest of our production in 2023 centred around long-distance products, where high demand for the **Irizar i6S Efficient** product stood out. It accounted for 44% of production, which shows the **success it is having on the market**, despite being a new product.

Like the previous year, in 2023 we continued our meetings **with institutional entities to explain different alternatives for reducing emissions in the future**. We have been with transportation directors from several autonomous communities, directors of provincial institutions, regional and city governments and, at a national level, the

Ministers of Industry and Transport. We have also contacted significant actors in mobility in the EU. We showed them the technologies available so they could learn about them and take them into account when they launch public tenders.

At **ASCABUS**, the Spanish Association of Bus and Coach Body Manufacturers (Asociación española de fabricantes de carrocerías de Autobuses y Autocares), which we are a member of, we shared:

- An analysis of the current fleet of coaches,
- its evolution during the pandemic,
- the situation of all of its associates,
- the activities we have done with institutions to apply for direct and indirect aid for the sector, and
- medium and long-term perspectives.

In 2023, we invited Irizar to **CONFEBUS** (Confederación Española de Transporte en Autobús), for their annual meeting so they could hold it in our facilities, where our CEO had the opportunity to share our strategy for sustainable and intelligent mobility in the future with them.



CONFEBUS is the organisation that represents bus transport companies of all sectors (regular, urban, discretionary, school, tourist, bus station transport, etc.) and all sizes in Spain. It has more than 30 federated territorial and sectorial organisations and more than 2050 associated companies (including some of our current and potential clients).

In 2023, Irizar e-mobility was once again present at **the World Summit on Public Transport of the UITP** (The International Association of Public Transport).



We went over our major milestones from the last 12 years at the press conference held at our stand. Among the milestones are the first 100% electric buses delivered in 2014 in Barcelona, in the ZeEUS project, the electro-mobility revolution in cities with the cutting edge Irizar ie tram in 2017, and the presentation of the first electric truck, the Irizar ie truck in 2018.

We also talked about the evolution of the market: "Our production has increased 100% in a year. And the growth forecasts we have for the coming months are positive, for both the domestic and international markets," noted Irizar e-mobility General Director Iñigo Etxeberria. At the same time, Imanol Rego, CEO of the Irizar Group, spoke about the Irizar Group's participation in European projects for the future electrification of cities and public transport. *"They're projects related with driverless vehicles, improvements in energy storage systems, energy efficiency, standardising charging systems, big data, artificial intelligence, etc. that are core for implementing a new concept of transportation. The Irizar Group currently provides multi-technology products that meet today's mobility needs with the line of efficient and sustainable vehicles,"*

Also in 2023, Irizar e-mobility was present at the **ATUC** (Asociación de transportes publicos urbanos y metropolitanos) conference, where the most important domestic operators gather. It was a space used by the UITP conference in Barcelona, and also to hold the ATUC annual assembly. We had the chance to share our visions of the future, the situation of the market and the concerns of operators.

Premium coaches where everything is possible

For decades our flexibility and high capacity for personalisation and adapting to our clients' needs has made it possible for us to offer a large number of choices geared towards converting premium or high end vehicles into multi-use vehicles.

More and more, vehicles are designed that adapt to your space and purposes where everything is possible, like large living rooms, training and meeting rooms, kitchens, dining areas and leisure, entertainment and

rest areas, mobile classrooms, exhibitions, massage spaces, health services, ambulances or mobile libraries. The possibilities are endless.

Clients are looking for functionality and comfort because, in many cases, they spend a lot of time travelling and their coach becomes like a second home. For that reason, in addition to maximum safety, reliability, profitability, comfort, luxury and the latest technological advancements, at Irizar we devote a lot of internal and external resources to designing, developing and making the adaptations needed to meet the demands of a more and more demanding market.

In 2023, we can highlight the **Irizar i8**, with exclusive designs for:

- An **ambulance for the Jämtland region in Sweden** adapted to move patients from small hospitals to large ones.



- The coach for Aris Lemessol FC, a first division football team from Cyprus adapted to provide maximum comfort for the passengers



Supporting them from start to finish

At Irizar **we offer personalised solutions**, designed and created to offer the best service: financing, repair and maintenance contracts and pick-up of your used vehicle. We have a *help desk* in every European country, and another central one that answers calls 24h a day 365 days a year. Customers can therefore enjoy close follow-up and advice that translate into optimization of vehicle reliability and availability.

The coaches have **remote diagnostic systems** to anticipate and plan management of spares and repairs. Likewise, they monitor the driving style of the vehicles, helping our clients to define good practice patterns for reducing fuel consumption and environmental pollution.

Aware that fuel is one of the greatest expenses for operators, we make every effort to **reduce consumption and the entire TCO** (total cost of operation). The reputation of the Irizar brand makes the residual value of our vehicles among the highest in the market, which improves the TCO of the vehicles.

We maintain close direct contact with our clients through the **repair-maintenance and original spares programmes** that contribute to improving vehicle efficiency, reducing stoppages, lowering TCO and lengthening vehicle life cycles.

We launched a **website for second hand vehicles** in 2021 so the vehicles our clients want to renew can have a second use by being reused. We put used vehicles from all our distributors on the website, which helps give a second life to the vehicles.

Their opinion and expectations are fundamental

Clients are the key factor in our future projects

We have the involvement of passenger transport operators that integrate their vast experience and knowledge, as well as their needs and expectations, in our innovation projects, making them participants in the design and development of future solutions.

At the same time we maintain alliances for keeping regular clients, we work on increasing our client network by bringing in new clients.



We are also striving to involve ourselves with our customers to share opinions and experiences, and discuss their sustainability concerns (economic-governance, social, environmental) and their vision of the future. Our goal is to achieve a productive dialogue that benefits both parties.

Clients, integrated into internal processes

At Irizar, we have Customer Relationship Teams deployed all over the world and Customers Line Teams in the internal processes of the organisation. The objective of all this is to channel their needs to guarantee the development of products and services of the future.

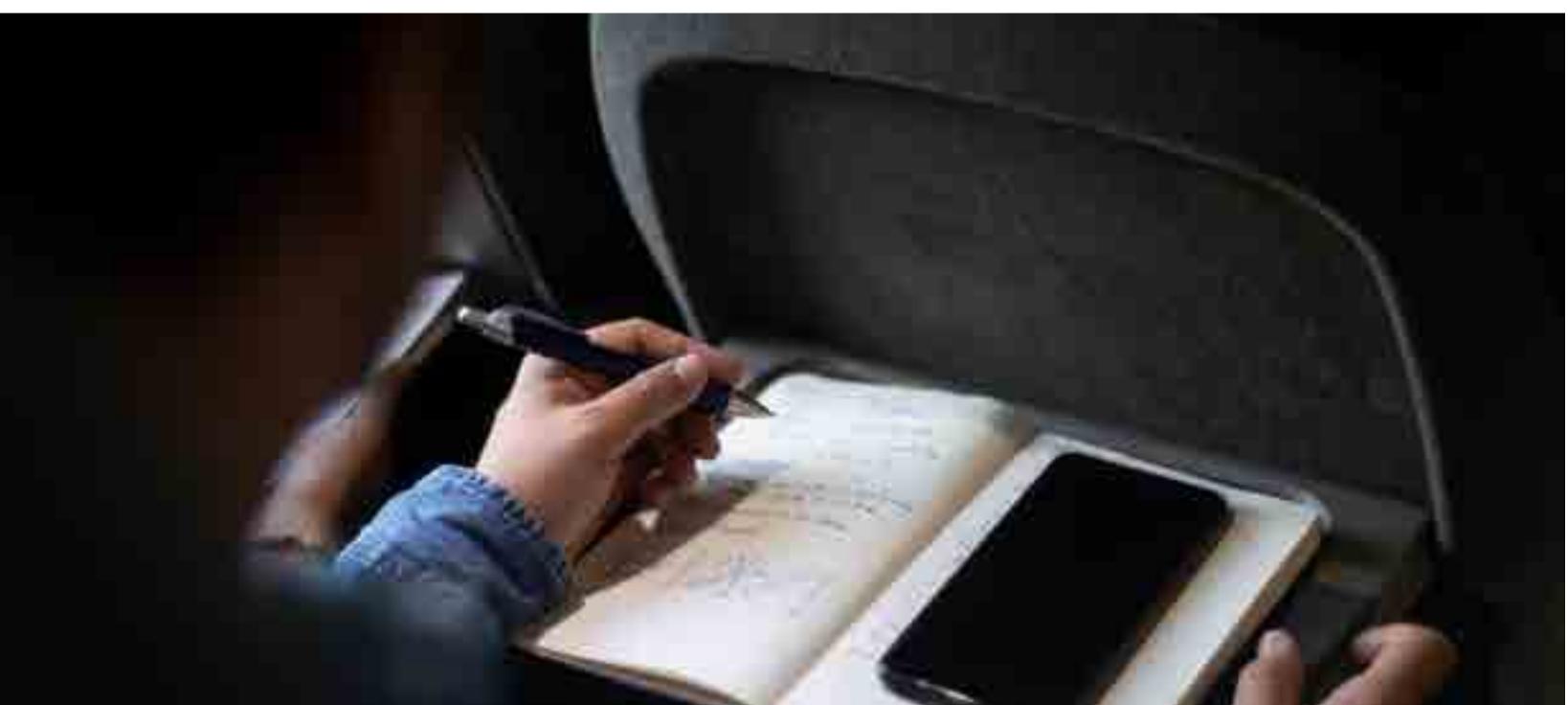
The **customer relationship teams** maintain direct and close daily relationships with them, making them the main source of information and knowledge as regards their current and future needs. This knowledge flows and is shared throughout the organization through different channels and processes.

The **dynamics of the Customer Line Team (ELC)** is one of the most important at Irizar. Each ELC is made up of all the teams of Irizar people involved in operations until they deliver each bus to the customer: customer relations, purchasing, supplies, product and process engineering, production, quality... All of them are responsible for complying with or improving the expectations of customers who, in turn, are naturally included in this process.

We held quarterly meetings of the Customer Line Team (ELC) for decades and up to 2022, except in 2020 and 2021 because of the Covid-19 restrictions. A quarterly review of daily activities in reference to the annual goals, presented by members of the Management Team and other managers from different teams and operational areas, was done

at the meetings. The CEO used the opportunity to spend time with everyone in the organisation and give them the chance to channel and express the concerns and issues that affect them as workers. All dissatisfactions, suggestions or proposals are collected so they can be analysed and action can be taken to resolve them.

As we described in detail in chapter 4 about "People", after the organisational changes we went through at Irizar, since November 2022 the meetings have been renamed. They are now called "**Building the Irizar of today and tomorrow**", with the goal of leading the Re-dynamisation of the organisation to catalyse the development of the brand, technology and sustainability. They are also led by the CEO and other members of the Management Team participate actively, DRIVING the re-motivation of the organisation to bring about an improvement in the organisation's performance and capabilities to take on new challenges (taking sustainability into account as well as technological evolutions in mobility and digitalisation), that are going to bring about very deep technological changes in products, services and ways of working. It is all focused on the present and future needs of clients, passengers and citizens, alongside the other stakeholders.



Always informed

We have a very close relationship with our customers. Through meetings, communication and marketing campaigns, we keep them constantly informed about our new products and services and also about the initiatives and results achieved in other sustainability issues.

We launched the new Irizar website in 2023, and it has a specific section about Sustainability.

Quality and after-sales forums Satisfaction Surveys

The **monthly quality forum** for product quality, is made up of the heads of the Senior Management of the organisation (CEO, General Director, Industrial Director, Director of Production, Commercial Directors, Purchasing

Manager, Product Innovation Manager, Product and Process Engineering Managers, After Sales Manager, Quality Manager, and other Commercial Equipment and Industrial Department personnel). It is an open forum, in which all Irizar people are invited to participate.

In addition to exhaustive monitoring of the quality and environmental objectives set out in the annual Plans, a review of the corrective actions of the main incidents presented by customers in different markets is also carried out. The most significant incidents are transferred to the quality forum after being evaluated in the **after-sales forum**. The conclusions and decisions taken at these meetings are shared with the commercial teams, after-sales team and Quality Managers of the other Irizar Group external plants in a constant search to share learning and synergies.

There has been a **clear improvement** in product quality that we have gradually been observing in recent years and that was reflected also in 2023.

- In the management of the communication channels / analysis of warranties of our technical services
- In the management of supplier guarantees, in their complaint, documentation, support processes and communication with the industrial area
- In managing communication/analysis of incidents in the market to improve the rapid response to them

Except during the pandemic period, we did previous **client surveys** and we will consider doing it in the future for continuous improvement: We



wanted to check if we are meeting their expectations in terms of products and services and Sustainability (ESG) and consequently improving those aspects that customers consider weaker and promoting the aspects they judge to be most important for the future.

Driver training

We have in-person **after-sales training** systems for Drivers and repair/maintenance technicians for Irizar vehicles. The training is also complemented by online training on iService (the Irizar After-sales Web platform).

Adapting the kind of driving to the kind of vehicle and route is essential. We are still teaching all the **eco-driving courses** that our customers demand, examining the impact that optimal driving habits have on fuel consumption savings and, consequently, on environmental impact. Objective comparisons of fuel consumption analyses carried out on monitored vehicles show considerable reductions from efficient driving. These courses not only contribute to reductions in operating costs, but also help achieve safer and more efficient driving techniques. With the continuous technological advances that Irizar is implementing in its vehicles and its influence on the safety - comfort - efficiency of the vehicle, training is highly valued by the operating companies and their drivers.

In addition to training, since 2019 **"efficient driving manuals"** have been included in all coaches along with vehicle documentation.

Meeting us at international fairs

Irizar at BUSWORLD / Irizar Hydrogen i6S Efficient launch (Brussels) - October 2023

Following our strategy of technological innovation and development, the Irizar Group presented their multi-technology range of buses and coaches, that included the new hydrogen Irizar i6S and a strong commitment to the sustainable mobility of the future, at the Busworld International Fair

We showed four latest generation vehicles: an Irizar i8 unit, an Irizar i6S Efficient unit, an Irizar ie tram electric vehicle and the new **i6S Efficient Hydrogen, which is the first zero-emissions H2 coach in Europe**, that we presented for the first time.

It is a pioneering project and a show of Irizar's firm commitment to offering a complete range of zero-emissions vehicles for both long and short range. And it is also a milestone along our path of decarbonising the complete range of vehicles.

This first hydrogen vehicle has been developed exclusively by Irizar, in conjunction with other leading companies and technology centres. It is currently in a phase of testing with a different typology. The accumulation of experience with and knowledge of this technology will be key to shaping the future hydrogen range. More details about the coach can be seen in section "3.6. Decarbonisation Green hydrogen as an energy vector"

For the first time at a fair for coaches, purses, backpacks, laptop bags and glasses, etc. were presented. The items make up the **Izir range of**



sustainable products made by Emaus and that are part of our commitment to the Circular Economy. There are more details in the chapter about the Environment.

On the occasion of Busworld, we received **visits from several groups of international clients** (from Morocco, Mexico, Latin America, South Africa and Australia) to the Irizar and Irizar e-mobility facilities and to other companies in the Group, like Hispacold in Seville.

Irizar at SOLUTRANS / Presentation of the new Irizar ie truck (Lyon) - November 2023

At the Solutrans fair in Lyon we presented the new generation of the lighter, more versatile and more sustainable zero-emissions Irizar ie truck. The new version was exclusively designed to meet the needs of cities and urban environments.

Irizar exhibited the three-axle version of the chassis of the new generation of the Irizar ie truck with a totally renewed design that is lighter



and technologically updated to comply with the latest legal requirements (ADAS and GSR2), and that is optimised to have better performance in all kinds of uses in urban settings. On the other hand, a two-axle unit with a refrigerated delivery body was exhibited at the Chereau brand stand, which is a leading European manufacturer of that kind of body. And a third unit was available for attendees interested in doing driving tests outside the fair grounds. The latter was a 100% electric vehicle with a rear-loading rubbish collection body.

The advantages of the new improved version of the Irizar ie truck can be seen in detail in section "3.5.2. Range of electric vehicles".

Irizar at TransportCH / Presentation of the new Irizar ie truck (Bern - Switzerland) - November 2023

At the TransportCH fair in Bern Irizar also presented the new generation of the zero-emissions Irizar ie truck, which is a much lighter, more versatile and more sustainable vehicle.

Irizar presented the three-axle chassis version of the new generation of Irizar ie trucks that have a completely renewed design that is lighter and technologically updated to comply with the latest legal requirements (ADAS and GSR2), and that is optimised for higher performance in all kinds of urban environments. At the same time, another two-axle unit equipped with a refrigerated delivery container was also available for anyone interested in doing a driving test outside the pavilion. The latter is a rear loading, 100% electric vehicles with a waste collection truck body.

The advantages of the new improved version of the ie truck can be seen in detail in section "3.5.2. Range of electric vehicles".

Irizar at EXPOBUS / With a new generation Irizar i6S Efficient (Silleda) - November 2023

We had two Irizar i6S Efficient at our stand: A 13 m integral version and a 14 m version on a Volvo B13 chassis, in addition to another 13 m Irizar i6S Efficient at the MAN stand and another Volvo B13 at the Volvo stand.

All those vehicles have a digital camera system that provides an optimal panoramic view in all conditions which, furthermore, has an impact on reducing consumption. Those improvements have meant that a large part of the Irizar i6S Efficient produced for Galicia already have the digital camera system. In addition, in coming months Galicia will have more Irizar i6S Efficient units on the road.



Irizar e-mobility at the UITP Public Transport Global Summit (Barcelona) - June 2023

We gave some details about our participation at the Global Summit in the previous sub-section "Irizar customer-oriented". Some details about the vehicles shown at our stand are included here: two zero-emissions buses that are revolutionising public transport in cities. One of them is an 18 metre Irizar ie tram owned by TMB (Transports Metropolitans de Barcelona), and the other one is a 12 metre Irizar ie tram that belongs to EMT (Empresa Municipal de Transportes de Madrid).



Irizar at other bus and coach fairs - 2023

- **VI ARP National Convention** (Braga, Portugal) In addition to attendees being able to visit an integral version of our Irizar i6S Efficient, they could attend the conference with the top management of Irizar and Irizar e-mobility in Portugal where they could see the value of the multi-technology vision we have at Irizar for the future of sustainable mobility.

- **VDV Elektrobusse Conference** (Berlin) Irizar e-mobility made a presence showing an Irizar ie tram loaned by EMT Madrid.
- **Journées Agir** (Biarritz, France): Once again Irizar e-mobility showed a 12 metre Irizar ie tram belonging to the city of Irún.



3.3. DECARBONISATION: in combustion vehicles

In this section, in addition to the options for contributing to decarbonising internal combustion vehicles from previous years and that we will discuss below (integral coaches and natural gas coaches), we are proud to highlight the **new generation of efficient, sustainable and profitable coaches**.

As we mentioned in section 3.1. "Race to Zero", in addition to working on lowering the fuel consumption and GHG emissions of our vehicles through using alternative fuel and drive technology, we also **innovate constantly in aerodynamics and chassis weights**, depending on the functionality the vehicle will have.

- On long-distance coaches the proportion is: 70% aerodynamics and 30% weight
- On short distance or intercity coaches the proportion is: 40% aerodynamics and 60% weight, because they brake more often

The outcome of our innovations along those lines were released on the market in 2022: the Irizar i6S Efficient and the Irizar i4 lightened. Those innovations will extend to the rest of our range later.

3.3.1. The Irizar i6S Efficient: the most efficient coach in Irizar's history

In May 2022 Irizar presented a new generation of the Irizar i6S model that is more efficient, sustainable and profitable. With the new Irizar i6S, **consumption and emissions have been reduced up to 13%, weight is down to 950 kg and the aerodynamic coefficient is 30% lower**. That makes it a latest generation vehicle designed to provide maximum efficiency to operators, the best experience to passengers and a commitment to Sustainability.

Irizar thus showed its firm commitment to its customers and society, to whom its products and services provide high added value whilst not ignoring fundamental elements like design, personalisation, safety, reliability and sustainability.



Aerodynamic coefficient improved by 30%

Excellent aerodynamic performance is the key to this new generation of coaches. Part of the front of the vehicle and roof has been modified. In addition, the curve of the windscreen and the rest of the front windows have been worked on to reduce air resistance to the minimum.

Furthermore, the Irizar i6S Efficient has the option to replace the **rear-view mirrors with digital vision cameras** with the two-fold goal of providing wide-angle vision in any weather conditions and contributing to aerodynamic savings. These modifications provide substantial improvements in the driver's direct and indirect field of vision, which increases the safety of the vehicle, especially in low visibility situations.

Weight reduction up to 950 kg

Another major challenge was reducing weight. The weight of every component was analysed and reduced. And the weight of the vehicle has been redistributed with the goal of improving weight distribution. High strength steel and lighter composite materials were used instead of traditional structural materials.

Thanks to those innovations we have been able to increase the space for passengers to improve ergonomics and comfort. We have also reduced noise and vibrations to the minimum. The cockpit has likewise been redesigned to be more comfortable and ergonomic and have a larger field of vision. The new line of Hispacold climate control devices is

more compact, efficient and lighter. That lets us make the travelling experience in this new Irizar as comfortable as possible.

A smart coach

The Irizar i6S Efficient is an efficient coach that is connected, safe and designed for the sustainable transport of the future.

It has a new multiplexed architecture and communications protocol that can provide self-diagnosis services in real time. Irizar technology makes preventive maintenance and online monitoring for remote diagnostics possible.

With the connectivity systems, all the data and usage statistics for the vehicle are stored in the cloud to maximise profitability, optimise route planning and minimise maintenance costs.



The Irizar i6S Efficient has the most advanced active safety systems for preventing accidents. Moreover, the vehicle has a reinforced structure that improves its response to torsion, flexing and head-on collisions, also improving its passive safety. We have increased and improved the driver's field of vision. In addition, the digital camera system gives a panoramic view in all conditions and situations, even at night or in the rain.

Having the electronics in the central console, the accessibility of the controls and the virtual dashboard let drivers interact with the vehicle and quickly obtain all the information they need and administer the entertainment and comfort system.

Exhaustive studies and aerodynamic tests

Like all Irizar buses and coaches, the i6S efficient has been developed using the most advanced technology in design, materials, components and production processes. Fatigue and durability testing was done on it at one of the most prestigious research institutions in the world to ensure its reliability and quality.

Exhaustive aerodynamic studies and tests using simulators and measurements in real circuits have shown an exceptional 30% improvement in the aerodynamic coefficient and a reduction of up to 13% in consumption and emissions. Those demanding tests are proof of the solutions that make the i6S Efficient a market leader in consumption and sustainability.

Maximum adaptation

As always, at Irizar we adapt to the specific demands of each market and client. And we offer the possibility to personalise vehicles with endless configurations for either right or left hand driving.

The i6S efficient is prepared for diesel, biodiesel, natural gas and biofuel, and it is designed to be adapted to future zero-emissions models. The versions adapted to each market will be presented in every country in 2022.

The Irizar i6S Efficient Wins the Sustainable Bus Award



The award received in 2022 was a recognition of the work done by the people at Irizar on what has been one of the largest innovation projects in recent years. It was a push towards our firm goal to tackle the new challenges we are facing today and make Irizar a key actor in the sustainable mobility of the future.

A new generation of Efficient vehicles

At Busworld 2023, we presented a new generation of Efficient vehicles with an additional consumption reduction of up to 5%, an improvement in weight optimisation and that, furthermore, complies with all the new GSR and cybersecurity regulations. It was an improved range that has a new cockpit with a new steering wheel, updated keys and a new version of the dashboard with an updated design and the option to select night driving mode. In addition, the digital camera system available for this range provides better visibility under any weather conditions.

In addition to the hydrogen version, the Irizar i6S Efficient is currently available with diesel, biodiesel, natural gas and biofuel technology.

We're not saying it, our clients are.

The fatigue trials and durability tests done at Idiada, one of the most prestigious applied research institutions in the world, guarantee their efficiency, reliability and quality.

In 2023, we reached 1000 Irizar i6S Efficient units on the road around the world in the most demanding operating conditions, with notable results in reliability and consumption.

The Irizar i6S Efficient has an especially significant presence in countries like Spain, France, Italy and Portugal. The significant value added by lower consumption and the innovative design of the new Irizar i6S Efficient are key to Irizar's geographic expansion into regions like Scandinavia, Germany and the Baltic states, and we keep expanding into markets around the world.

The future Irizar i8 with all the improvements of the Efficient range

The Irizar i8, the brand's flagship, is still a leader in comfort, design and innovation. The new generation of this model in Europe can already have some of the updates of the Efficient range, like the digital camera system.

Today, of all the Irizar i8 vehicles on the road around the world, their presence in Mexico stands out, where it is the leading vehicle for long-distance VIP services. That is why the new Irizar i8 Efficient will have its worldwide launch in the framework of Expo Foro, which will be held in Mexico City at the end of February 2024. That will be made possible by working cooperatively and from the synergies of the industrial area of Irizar S. Coop. in 2023 to expand the Efficient range to more models and more of the Group's production plants on other continents.

The new version will include all the improvements of the Efficient range and achieve a significant reduction in consumption and emissions to make the Irizar i8 an even more sustainable vehicle.

3.3.2. Irizar i4 lightened: efficient, sustainable and profitable

In February 2022 Irizar launched new generation of the Irizar i4 model coach that is more efficient, sustainable and profitable. The Irizar i4 is a versatile vehicle that is also a perfect intercity coach for school or company transport or discretionary use. The different versions of this vehicle (H, M, L) strike a perfect balance between accessibility and luggage compartment capacity, according to the needs of each operator.

The new generation Irizar i4 coach now offers significant new features that mainly focus on a major reduction in weight and optimal per axle load distribution. The result is a **lightened** vehicle with a weight reduction of up to 955 kg, depending on the configuration chosen.

It is a **highly efficient, sustainable and profitable coach** that because of its structural redesign and the development of new technological solutions and innovative optimisations, provides significant **fuel savings** up to 5% and, consequently, improvements in the **reduction of CO₂ emissions**.

The implemented solutions include the use of high-strength steel and composite materials to replace traditional structural materials, as well as new seats, with weight optimisation and greater space between them, thus enhancing passenger comfort and experience. The innovations implemented have made it possible to offer new seat distributions that provide versatility and maximum adaptation to client needs.



As important safety measures, a radar system can optionally be installed in the central part of the front. The Irizar front headlights with Full-LED option offer up to 30% more light capacity. The rest of the lighting elements are also LED technology.

This latest generation Irizar i4 is available with diesel, HVO and B100, hybrid and biofuel or natural gas (CNG or LNG) propulsion systems, depending on whether it is an integral Irizar model or a combination of chassis and bodywork. Thus, the Irizar i4 provides a wide range of configuration options and advanced safety systems as well as excellent ergonomics and accessibility for the driver. And it has become a highly efficient, sustainable, profitable and multi-purpose vehicle that, without a doubt, fulfils metropolitan and inter-city service or school and company transport demands.

3.3.3. Irizar brand integral coaches

The best representation of the Irizar brand are our integral buses and coaches. And we only supply engines that comply with Euro 6E emissions. Tests done by the suppliers of the power trains for these vehicles show very competitive results in performance, efficiency and sustainability.

Creating integral coaches (diesel, biodiesel and HVO) is a substantial improvement that translates into:

- a 6% reduction in **fuel consumption** and **CO₂ emissions**
- on-demand **power technology** that reduces consumption more, increases the life of components and lengthens maintenance intervals
- improved handling, distribution and weight **reduction**
- reduction of **noise** and vibration
- Lower **repair and maintenance costs** Improved access to the motor compartment and long service intervals (without changing oil filters, etc.)
- Increased passenger capacity and **comfort**
- Maximum **comfort for the driver**
- **Smart technology** that makes **predictive driving** possible so driving can be adapted to the topography and condition of the road and the most intelligent gear changing strategy can be used.

And as a consequence of all this, it increases the residual value of the vehicles and improves the Total Operational Cost (TCO) by 5%.

Since April 2022 these coaches have EV02, which are new combustion power trains with updated components. That is translated into significant **ADDITIONAL IMPROVEMENTS**:

1. A **weight** reduction of more than 100 kg
2. Improvements in the **drive axle**
3. Efficiency and a **reduction in fuel consumption and GHG emissions** of 0.5%

That contributes to improving the total operating costs (TCO) for our clients.

We are working on the **new generation of GEN3** integral power trains that will contribute to improving efficiency, reducing fuel consumption and emissions by another 5% and to meeting the new safety regulations (GSR2) and the ADAS driving assistance system. That, in turn, will contribute to improving the total operating cost (TCO). In short, the main



improvements of this new generation of powertrains over the current version are the following:

- New motors and gearboxes that enable improvements in fuel consumption, emissions and comfort. They will account for 3.5% of the 5% total reduction in consumption and emissions.
- New electronic systems New ADAS, GSR, connectivity and cybersecurity systems
- **New smart controls in the cockpit:** New keys on the dashboard and steering wheel, light controls and hand brake
- **Improvement in NVH** - Noise, Vibration and Harness (comfort): New clutch for the automatic gearbox and new motor brackets to improve the coach's comfort Complete dynamic study of the vehicle
- **Weight reduction:** The weight of the Gen3 powertrain has been reduced by more than 150 kg in comparison to the EV02.
- **Powertrain aerodynamics:** The aerodynamics of the motor enclosure are improved.

3.3.4. Natural gas (CNG and LNG) coaches

In 2020 Irizar, as a result of its effort to offer innovative and sustainable mobility solutions, incorporated compressed natural gas (CNG) and liquefied natural gas (LNG) into its range of renewable fuels.

The environmental benefits provided by the coaches with this technology include:

- **Reducing emissions of CO₂** around 25%, NOx up to 60% and particles above 98%
- They have **better thermal performance** than diesel and **vibration and noise emissions are also minimised** between 4-5 dB.
- Insofar as the operating cost (TCO), the reduction is estimated to be up to 35% depending on the difference between the cost of petrol and of diesel.
- The maintenance cost remains similar to that of a conventional diesel vehicle.

The vehicles have a range of up to 500 km in the CNG version and up to 1000 km for the ones with LNG technology. The driver has a gas control screen to comply with all safety protocols. This is used to detect leaks and monitor the start-up of the water additive aerosol fire extinguishing system. These vehicles comply with Regulation R/66.02 even with 700 kg of extra weight on the roof and with the thermal safety and mechanical safety protocols, in accordance with Regulation 110.



3.4. DECARBONISATION: with hybridisation

We remain committed to hybridisation for the Irizar brand and with other chassis. We are analysing expanding our range of hybrid vehicles in search of better performance:

- The capacity to drive in zero-emissions mode to anticipate the zero emissions zone needs of cities (SDG 11), and
- expand the hybrid range to long-distance vehicles



The Irizar brand

In 2016, we launched the Irizar hybrid line to the market, becoming **the first European company to launch an inter-urban class II hybrid coach**.

Hybrid parallel technology, combining a propulsion engine with an electric motor that provides power or generates electricity. Depending on requirements, the engines can act individually or together to achieve optimum efficiency and performance (the use of biodiesel eliminates sulphur emissions).

Today we have a full range of hybrid vehicles with Euro 6E internal combustion engines that are certified to run with fossil diesel, biodiesel and HVO. These coaches offer:

- A **30% reduction in consumption** in comparison with a conventional diesel coach,
- which lets our clients have significant **fuel savings** (7000 litres/year) and
- a proportional reduction in CO₂ emissions (up to 30%) Estimating a 25% fuel savings, **it would be a reduction in CO₂ emissions equivalent to 304,000 kg during its useful life (70,000 km/year for 15 years).**
- **Less noise** and a great drivability

In addition to that, it all contributes to lowering the TCO.

Hybrid on chassis

In 2020, as the outcome of our collaboration alliance with different chassis brands, we launched new hybrids on the market that also reduce fuel consumption and CO₂ emissions in comparison with equivalent Euro 6 diesel coaches, improving the TCO in accordance with the same percentages of improvement as the Irizar brand hybrids.

Thus, we are expanding the range of ecologically and economically sustainable solutions for our clients.

3.5. DECARBONISATION: Irizar Group electromobility, zero emissions

Irizar e-mobility: a leader in the sector

In 2011, we started our electromobility business line, under which, we combined the knowledge and experience of the entire Irizar Group. Our strategic commitment to innovation in sustainable mobility for the future and the transformation of cities. We intend to contribute to improving the quality of life and health of citizens with more efficient, cleaner and accessible transport, and making urban environments more sustainable.

Irizar e-mobility's strategy, aligned with sustainability and the energy transition, was fundamental for the company to increase their business activity 100% in 2022, which it did with the clear goal of contributing to reactivating the public transport sector. Irizar e-mobility has become a leader in the sector because of the growing number of electric vehicles on the road in the major European cities, their humaneness, and their innovative and technological DNA. Their electromobility solutions are expanding throughout Europe and are on the ground in new countries like Switzerland, Germany, Italy, Bulgaria, Liechtenstein, and others.

Irizar e-mobility is committed to turnkey electromobility solutions with the aim of offering sustainable, efficient, accessible, safe and connected public transport. Hence, its active commitment to the environment, the well-being and health of people and to the creation of better

urban environments with a special emphasis on reducing emissions, noise pollution, and increasing efficiency, in low consumption that has an impact on lowering costs.

The challenges, now generating success in the implementation of electromobility solutions of the Irizar Group, serve as experience on this path towards sustainable and smart urban mobility for the future.

3.5.1. Integral electromobility solutions

At Irizar we provide personalised **integral electromobility solutions** for cities, both in regards to manufacturing zero-emissions vehicles and manufacturing and installing the main infrastructure systems needed for charging, drive systems and energy storage. All of which was designed and manufactured using 100% of our own technology and with the Irizar quality and service guarantee.

We offer totally customized **turnkey** projects, designed and created to meet customer needs. The operator, therefore, has the differentiating benefit of having a single point of contact at every stage of the project, including after-sales service, maintenance, and custom repair, which also translates as optimised vehicle reliability and availability.

With our proprietary technology we can provide constant updates for the included systems with the goal of effectively meeting the challenge of maximising the useful life of every vehicle in order to optimise the value of your assets. There is an Irizar exclusive and high-quality after-sales service in all cities where electromobility solutions

are installed, with customised R&M packages and managed by local technical experts and employees, thus helping to create local wealth and jobs.

We conduct advisory studies and energy studies of the operator lines and use the data yielded by these studies (operating data, speed, line characteristics, terrain, line etc.) to advise on the energy needed to embark on its optimization strategy, power parameters, solutions and charging times and battery life. We also provide the possibility to coordinate civil engineering projects.

The predictive and comprehensive maintenance of the main systems and components of the vehicle that directly impact life cycle costs, insofar as they optimise the performance and availability of the vehicle, and the residual value of the asset. We do so, fundamentally, by using monitoring tools that are capable of monitoring the vehicle (doors, batteries, air conditioning and heating, pantograph, powertrain...) and which provide bus availability and reliability statistics, optimise maintenance time and carry out real-time monitoring of the system.



3.5.2. Range of electric vehicles

Our product range includes 10, 12 and 18 metre city buses, which have been operating since 2014 in various European cities, as well as other electric vehicles for cities like the Irizar ie truck, all of which are zero-emissions.

We are currently expanding our electric range to include intercity vehicles. We are developing the 100% electric Irizar i3 BEV (class II), which we expect to make available to our clients in the near future. It will have performance and power comparable to traditional internal combustion vehicles, thus guaranteeing a good travel experience and comfort for passengers.

Our buses are characterised by being exceptionally quiet and not generating emissions but also for their accessibility and modern and innovative aesthetic design.

The entire range of buses uses our latest generation batteries. The Irizar e-mobility battery portfolio provides an optimal solution for both slow charging and ultra-fast opportunity charging operations.

We can provide up to four positions for interoperable charging points using a combo 2 hose, in addition to a charging solution using an inverted pantograph or one mounted on the roof.

At Irizar e-mobility, we have been electrifying cities for more than ten years, implementing complete personalised projects. We keep being leaders

in the Spanish market, and we have a clear commitment to keep reinforcing our presence abroad. An electric Irizar ie tram was presented in Mexico for the first time in 2023, which made our penetration into Latin America possible. We are present in 11 European countries. And at the beginning of 2024 we will have more than 1000 vehicles on the road in Europe.

The Irizar ie tram - A tram on the tarmac

- Available in 12 and 18 metres
- Up to 300 km range
- Engine power: up to 320 kW



The **Irizar ie tram** is a 100% electric, zero-emission bus with the appearance of a tram that combines the large capacity, ease of access and internal configuration of a tram with the flexibility of a city bus.

The Irizar ie tram offers a design that starts from a minimalist aesthetic language, without ornaments, with all of its features responding to specific functional aspects allowing it to create an identity and an image that are easily recognisable by users. Accessibility, safety, passenger flow and passenger comfort are the inspiration behind the interior design architecture, resulting in a bright, comfortable, spacious, pleasant and safe interior.

The new generation of buses has safety improvements that meet the new GSR2 ADAS regulations, which include cybersecurity for the vehicle. It also has a renewed generation of batteries with lower consumption and a longer range that improves the energy available at BOL and EOL by 30%. It lets us keep adapting to the needs of the market by expanding our line of batteries. The new drive system, with a lighter and more compact design, reduces weight up to 26% and also includes a new digital HMI that allows maximum personalisation.

Irizar ie bus -- Designed for the city

- Available in 10, 12 and 18 metres
- Up to 300 km range
- Engine power: up to 320 kW



The bus's meticulous design inside and out makes a more attractive, reliable and safe vehicle.

The front end, with a more pronounced and elegant touch, is increasingly similar to the aesthetic features of Irizar products. When it comes to the interior design, although the standard version has a more conven-

tional specification, some of the Irizar ie tram options may be incorporated, including large windows, side lighting or screens above the windows, among others.

18 m Articulated Bus – **Eliminates 120 tons of CO₂ from the atmosphere every year**



The electric buses have an estimated carbon footprint of **8.45 gr CO₂ eq/km.p. (kilometre travelled and passenger)**. Compared to a conventional combustion bus, emission of around 800 tons of CO₂ is prevented during its entire useful life.

This figure is the difference between the emissions associated with the electricity consumption of batteries and burning fossil fuels.

86% reduction in the carbon footprint compared to a conventional diesel bus.



The electric technology makes the noise of the combustion engine disappear, which means there are no exterior sound emissions for pedestrians when the bus is stopped or starting (0 dBA). When driving, **noise emission is reduced by 20%**.

A study conducted in Sweden in 2014 by the Swedish company Kockum & Partners A.B and entitled *“Quieter buses socio-economic effects” concludes that **replacing 240 conventional buses by electric buses reduces noise pollution by 1.3 dBA, which translates into an annual socio-economic saving of €52,650 per kilometre, with a reduction in costs of 27%**.

Irizar ie truck - powerful versatility



The global vision of the electrification of cities and the search for synergies with freight infrastructures together with the technological capability created in the Group has allowed us to extend our range of products to industrial vehicles for cities.

The Irizar ie truck is a 100% electrical truck which responds to different market needs and enables it to move around cities and urban environments without atmospheric or noise pollution. The result is a cleaner city and more sustainable environment for citizens. It will initially be used for collecting municipal waste, however it is highly versatile and can have multiple uses: last mile delivery, dry food, refrigeration, crane, dump truck, etc.

The currently existing versions include **zero-emissions** trucks or ones with a **range extender** for using outside the city if more range is needed.

The Irizar ieTruck is not a conventional truck: Its aesthetics, which break with the aesthetic concepts of the current trucks, recalls the Irizar brand's product lines. The main attributes of this product, designed to operate in urban environments, are its smooth and innovative aesthetic design, operator safety and ergonomics, technology and flexibility for adaptation to market needs.

Mass production started in 2021, and in 2022 we made the first deliveries of vehicles produced for urban waste collection to several European cities. In 2022, the European sales network for the truck was also strengthened in countries such as France, Germany, Switzerland, Austria and Spain.

We are very happy with its behaviour, because in conversations we have had in several cities the drivers have expressed their satisfaction with the Irizar ie truck because of:

- The ergonomics, driver's seat and cabin
- The ease of driving and manoeuvrability
- accessibility and
- its silence, without the noise of other drive systems

Until 2022 it was manufactured at our Ormaiztegi facilities. But, since the start of 2023 it is manufactured in a **new production plant** near the parent plant that has capacity for 60 trucks a year.

The Irizar ie truck has significant R&D activity associated with several projects we participate in, such as:

1. The **PERTE VEC "CAPITAL"** project led by the Irizar Group (see "Innovation, it's in our DNA" in section 3.1)

2. The **global e-WASTE** project, financed by the SPRI, that we participated in recently with a consortium with other companies and research centres to improve mobility in cities. That project ended in 2022 and was focused on providing cities with a novel environmentally sustainable waste collection service based in research into new electromobility techniques. The outcome of that project was a new hybrid truck that uses intelligent algorithms to ensure its 100% electric operation in urban centres. New batteries for the ie truck have been developed in parallel. In addition, it has facilitated the acquisition of the knowledge needed to deploy charging points for heavy industrial vehicles domestically and internationally.

3. The **NextETruck** European project that we participated in as part of a consortium of 18 organisations, which included several companies from the Irizar Group. The goal of this project, which was started in 2022 is to reduce consumption, increase range and increase battery recharging power in order to decrease charging times for future electric trucks.



The **IMPACT** the project seeks is to:

- Build concepts adapted to regional medium freight transport with at least a 10% increase in energy efficiency in comparison with reference electric vehicles from the highest range currently available
- Develop new fleet management and charging infrastructure tools to achieve the total electrification of zero-emissions electric vehicle operation, while safeguarding energy efficiency
- Prepare demonstrations of fast-charging concepts and infrastructures
- Provide new business models to increase acceptance by end users and promote adoption of the project's solutions in the market
- Contribute to climate goals, especially for local air quality

As we saw in section 3.2. in "Meeting us at international fairs", at the Solutrans fair in Lyon we presented the **new generation of the lighter, more versatile and more sustainable zero-emissions Irizar ie truck**. The new version was exclusively designed to meet the needs of cities and urban environments. Among its advantages, we can highlight:

- **Lower consumption, emissions and weight:** The knowledge and experience gained from the first generation of the truck has enabled the effective redesign and optimisation of the new version of the truck, which is up to 2000 kg lighter in the 6x2 version and around 1400 kg lighter in the 4x2 version. That leads to an important reduction in fuel consumption and emissions, as well as a much lower TCO for the operator or end customer.
- In addition, the **new (lower and shorter) cabin design** improves versatility, optimising for all possible uses even more. Furthermore, it is

still the vehicle with the lowest access height on the market, (with a single 370 mm step), with which safe transport for the driver and their companions can be guaranteed.

- As with the entire Irizar range, **safety** and full compliance with ISO 16121 and VDV 234 remain essential when finding the best position for the driver, where ergonomics and visibility are paramount for safe driving.
- **Designed for different industrial uses with Irizar technology** The new lower and shorter cabin further reinforces the idea of flexibility and versatility, optimising integration with any kind of body to the maximum. The Irizar Group is currently able to provide vehicles for all kinds of containers, including for dry and refrigerated food and material distribution, fuel transport, street cleaning and sanitation with tank trucks, transport for people with reduced mobility, tipper or normal flatbed trucks with or without a crane, etc. And all of that is done with the Group's own technology that has been used for years on the brand's electric buses. The Irizar Group's technological capacity and its collaboration with the best research centres have enabled the development of



this top-level industrial vehicle, with turnkey services and solutions, positioning the Irizar Group at the forefront of European technology. This vehicle is fitted with the Group's third generation higher energy density batteries for more on-board power using less volume and weight. As a result, this new generation battery stores up to 512 kWh and provides up to 400 km of autonomy, depending on use.

3.5.3. Irizar batteries

Batteries are the fundamental part of an electric vehicle. The range, price, charging speed and useful life of the vehicle depend on them.



Our energy management and storage solutions, developed and manufactured in our Aduna, Guipúzcoa plant are designed to cover the needs of today's European market and to offer the best solution for each of the operator's requirements.



We provide different modular solutions, based on Lithium-ion technology:

- **Slow charging (Energy Pack):**

Designed so that the vehicle can travel the maximum number of kilometres and complete operations with a single daily charge. Its design makes it possible to find a balance between vehicle range and number of people.

- **Rapid charging (Nano Pack)**

The perfect coupling of vehicle range and charging capacity. Ideal for mixed operations, where the vehicle has sufficient battery life to operate during peak hours. Charging can be fast or slow.

- **Ultra-fast charging or opportunity charging (power pack)**

The solution for a 24/7 operation with charging of up to 600 kW.

In 2022, we worked on expanding the products we have on the market with several kinds of batteries with the goal of giving clients a total solution adapted to the operations the vehicles will do.

3.5.4. Battery second life and recycling

The Irizar battery pack is a **highly recyclable** product. Using a controlled process, the handling of all their components is ensured, in addition to having the possibility of being used for other purposes. At the same time, Irizar is constantly searching for and researching more and more efficient products with the least possible environmental impact.

Irizar provides a **second life to batteries** under a **partnering agreement with Ibil** that lets the batteries we install in our electric buses to be reused after their useful life in the buses is over as energy storage devices. And the power electronics associated with that use can also be reused in the charging infrastructures Ibil is developing and deploying at Repsol service stations, among other places.

Irizar e-mobility, in collaboration with the Cidetec Technology Centre, participates in projects related to the analysis of the second life of batteries, which are used in urban electric buses. It is estimated that these batteries will reach their end of life at an approximate SoH (State of Health) of 80%. They must then be replaced and repurposed for other uses with less demanding electrical specifications, such as stationary applications including electrical storage for photovoltaic systems or electric vehicle charging systems. In parallel, the issue of recycling is also being addressed in collaborations with several European companies, to ensure final treatment of each component, controlling each process for safety and environmental aspects.

For urban electric buses, the service life of batteries can reach up to 10-15 years, depending on daily loads and the high powers to which

they are subjected. After that time, the batteries must be replaced so that the vehicle maintains its original functionality. The end of the first life, however, does not mean that the batteries have lost all their charging capacity. So, far from discarding the batteries and in service of their commitment to the environment and the Circular Economy, sustainable reuse in charging station storage applications will be introduced for stabilising energy demands when vehicles are charged at high power.

The first charging station for electric vehicles with second life batteries from Irizar e-mobility



As an outcome of the collaboration agreements with Ibil, the first charging station for electric vehicles developed in conjunction with **Repsol** that uses energy storage using recycled batteries from Irizar e-mobility started operating in 2021. The 50 kW charging point was installed in a Repsol service station on the N-I road where it goes through the city of Tolosa in Gipuzkoa.

Ingeteam, Cidetec and Gureak also collaborated on the project. The latter company employs people with disabilities from Gipuzkoa, and they carried out the entire industrial assembly of the storage module. The project also had support from the Basque government and the Provincial Government of Gipuzkoa through the Hazitek and Smart Mobility Industry R&D programmes, respectively.

This technological and industrial development simplifies and facilitates the installation of 50 kW charging points in locations that do not have enough electrical power or where the cost of investment in the grid makes other alternatives infeasible.

These are the main advantages this project provides:

- It makes it possible to install quick charging points (50 kW) in places where it would otherwise not be feasible because of a lack of sufficient electrical power or where, even if it is viable, the technical difficulties of connecting to the grid would require an excessive increase in investment.
- The power of the grid needed to provide services is reduced by 70%. A 50 kW quick charging point can thus be put into operation using only a 15 kW grid connection.
- They can be installed almost anywhere because of the small footprint of the storage module, which is less than a square metre.
- Infrastructure operating costs can be lowered significantly, by up to 50%, primarily due to needing a lower power service.
- It provides a second life to electric bus batteries and promotes sustainability and the Circular Economy.

The technical difficulties of installations in places where installing electric charging points is ideal in terms of mobility, like service stations, can be

overcome with an innovative solution that provides autonomy and efficiency to the charging system and it also integrates with local distributed generation and self-consumption. Installing this charging station is another step forwards in Irizar e-mobility's commitment to the **Circular Economy**.

3.5.5. Careful management of resources

In addition to manufacturing zero-emission electric vehicles for their use phase, our focus is also on reducing CO₂ emissions and other pollutants throughout the life cycle of our electric vehicles. We focus our efforts on optimising the efficiency of three key aspects that contribute to the bus's global environmental impact: the drive system and batteries, the raw materials used and the management of all the components to the end of its useful life. The components used comply with the European Union **REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)** regulation, which addresses the production and use of chemical substances and their possible impacts on both human health and the environment.

We have also modified our method of manufacturing buses, prioritizing the ability for components to be removed and recycled, changing the traditional weld system with a new method based on modular screw-in of the aluminium structure, with vehicle recyclability and recoverability rates greater than 90% in accordance with standard ISO 22628 "**Road vehicles. Recyclability and recoverability calculation method**". The recyclability rate of the components and materials used for the Irizar ie bus is 98.92%, according to the results of an analysis carried out in collaboration with **iHobe** (public corporation for environmental management of the Basque government).

3.5.6. Charging infrastructures

Our charging solutions are interoperable. They adhere to the interoperability standards set forth in ISO 15118, DIN70121, OCPP 1.6 CE mark, EMC. 61000-6-2, 61000-6-4, IEC 61851, IEC 61000.

We offer a range of smart charging options to provide solutions to the different conditioning factors clients face in terms of power limits, as well as space and operating restrictions.

- **In garage charging** Available from 50 kW to 150 kW in *outdoor* and *indoor* models. Up to three vehicles can be charged simultaneously with these chargers.
- **Pantograph in garage** With this solution, we are making it possible to completely automate slow charging in garages by using pantographs. This alternative reduces the presence of cables on the floor and, therefore, improves the safety of the operators.
- **Smart charging system.** This is a custom solution that efficiently manages all the charging conditions/restrictions in the depot. It identifies the different charging needs of a fleet to optimise the total power required.
- **Opportunity charging** Recommended when the vehicle has a reduced range and needs to charge during journeys and can be operational 24/7. The power of the chargers varies between 450 kW and 600 kW for both pantographs mounted on the roof and inverted pantographs.

In conjunction with Jema Energy (an Irizar Group company), Irizar participates in the **ASSURED project (smart and fast charging infrastruc-**

ture for large vehicles). This project addresses "the integration of electric commercial vehicles into the fast-charging infrastructure" of the Green Vehicle work programme. A consortium of 40 participants from 12 EU member countries will carry out the work. The overarching objective of ASSURED is to analyse the needs of cities, operators and end users in order to derive the characteristics and requirements of the new generation of heavy-duty electric vehicles (like buses), medium-duty trucks and light vehicles to operate in urban areas. In this way, we can obtain better cost improvements, develop the new generation of high voltage modular charging systems for electric vehicles and develop innovative charging management strategies.

Thanks to the ASSURED project we have already made it possible to charge electric vehicles using the inverted pantograph we mentioned previously.



3.6. DECARBONISATION: Green hydrogen as an energy vector

3.6.1. Long distance electric coaches with green hydrogen fuel cells

Because Innovation is in our DNA, we continue **developing new generations of coaches** with cutting-edge technical solutions to provide maximum energy efficiency and performance, allowing operators to reduce fuel costs and CO₂ emissions. Other attributes such as the safety, availability and reliability of the vehicle, as well as comfort, accessibility and connectivity for passengers are also important.

In this context, in addition to keeping **promoting and strengthening the electromobility division**, we are continuing our long distance electric coach project based in green hydrogen fuel cells that:

- Guarantee zero carbon dioxide (CO₂) emissions
- Have a minimum range of 500 km
- Refuel in a maximum of 10 min
- The forecast increase in weight must not compromise the attributes of a combustion engine vehicle (number of passengers and storage capacity).

These projects are strategic priorities for Irizar, which is firmly committed to becoming a benchmark in sustainable mobility and promoting the energy transition and decarbonisation to achieve a climate-neutral society.

It is not common for Class II and Class III coaches powered by fuel cells to be on the market. Consequently, having that kind of vehicle would be a competitive advantage for providing long distance zero-emissions vehicles.

Strategically, the Irizar Group is committed to battery and fuel cell technologies in order to achieve zero emissions. The customer will be able to choose between the battery or fuel cell technology that best meets their needs. The Irizar Group's short-term technological road map includes developing and manufacturing coaches, especially vehicles that travel long distances between refuelling stops and are propelled by hydrogen fuel cells.

- We successfully ran a hydrogen fuel cell on a test bench in 2022.
- We manufactured and put our first coach (the **Irizar Hydrogen i6S Efficient**) into operation in 2023. And we presented it for the first time at the Busworld fair (as we mentioned in the "Meeting us at international fairs" section), where it attracted a large audience of participants.
 - The Irizar Hydrogen i6S Efficient has a range of up to 1000 km and minimal charging times of around 20 minutes. Consequently, the way our clients operate will not be changed and they can continue

their existing routes and schedules. In addition, it can run in 100% electric mode for short times, if required.

- The efficiency and high durability of the vehicle's main components can also be highlighted. The batteries will stay with the vehicle for its entire useful life. And the fuel cell will need maintenance, without replacing components, after around 30,000 hours of operation, depending on the kind of routes and use.



- We plan to do more tests with the coach in real settings in 2024, and to scale it commercially, even with new generations of vehicles.

All of that is part of the [Coach2 project](#) that is subsidised by the Basque government. The COACH2 project: "Solutions for decarbonising long-distance passenger road transport using a fuel cell drive system", was financed by the SPRI of the HAZITEK 2021 programme.



The goal is to lead the long-distance zero-emissions coach market with research projects that will determine the drive, storage and structure solutions for the vehicle. That lets the Irizar Group manufacture a new long-distance coach with hydrogen fuel cell propulsion.

We share our advancements in the hydrogen powered coach development project in the framework of the **Basque Hydrogen Corridor (BH2C)**, which is discussed in chapter 5. Alliances and others in Europe.

To a lesser degree, we are also making progress with the hydrogen coach in the [PERTE VEC "CAPITAL" project led by the Irizar Group](#) (see "Innovation, it's in our DNA" in section 3.1).

We also participate in the [HYSTORENEW project](#) for exploring green hydrogen opportunities related with energy storage using hydrogen for the purpose of facilitating decarbonisation and integrating renewable technologies. This project was started in 2022 under the auspices of the Centre for Industrial Technological Development (CDTI) in the framework of the CIEN projects.

The general goal of the project is to research different lines of work and show the viability of using hydrogen buses on intercity routes by manu-

facturing a new metropolitan coach with hydrogen cell propulsion in collaboration with companies, SMEs and research centres.

3.6.2. Electric trucks with green hydrogen fuel cell batteries

We started the [H2TRUCK project](#) for urban hydrogen vehicles in 2022.



H2TRUCK (Investigación y Desarrollo de un Nuevo Vehículo Pesado para Aplicaciones de Servicio Urbano con Tecnología Híbrida Batería - Pila de Combustible Alimentada con Hidrógeno)

Objetivos:

- Fabricación de un prototipo de recolector compactador de residuos sobre un chasis-plataforma de gran tonelaje con propulsión 100 % eléctrica alimentado por un sistema híbrido de pila de hidrógeno y batería de iones de litio Respetuoso con el medio ambiente.
- Plataforma chasis híbrida con aplicación futura a cualquier equipo o máquina que preste servicio urbano
- Desarrollo de una estación móvil de compresión y suministro de hidrógeno que permitirá al vehículo prototipo repostar en cualquier localización.



3.7. Safety and Driverless Vehicles

3.7.1. Passenger safety comes first

Avoiding problems on the road is a strategic demand for Irizar vehicles. We invest aggressively in technology and innovation starting in the design phase in order to be leaders in the field, because we want to guarantee maximum levels of safety for drivers and passengers. <https://www.youtube.com/watch?v=mV90wJm5L6o&t=13s>



All Irizar brand models meet **passive safety** standards and have the most modern **active safety** systems to ensure stability and minimise risk in unforeseen circumstances.

Highlights include stability control (ESP), adaptive and predictive cruise control (ACC + PCC), advanced emergency braking systems (AEBS), involuntary lane change (LDW), detection and monitoring of tire pressure (TPMS), full LED headlights, driver fatigue detector (DFT) and optional predictive shifting (PS), as well as video surveillance for image recording and anti-theft device. On the electric and hybrid buses we can highlight the AVAS (Acoustic Vehicle Alerting System), which is an acoustic warning system that alerts pedestrians and cyclists that a vehicle running in electric mode is nearby.

These active safety technologies also include the possibility of remote download of driver and vehicle cards and audible alerts for pedestrians in the case of silent buses and coaches.

For **DSM (Driver State Monitoring)**, a system that detects the condition of the driver (presence, drowsiness and mobile phone usage) is installed and it reports any incident detected to the driver and, optionally, the operator.

We do **awareness raising campaigns at schools** so young people can learn better safety habits. And we provide ongoing **training to fire departments and civil protection groups** to instruct them about the best way to stabilise coaches and components with risk, so they are able to intervene with the agility necessary to best perform extraction manoeuvres.

For all Development projects we are adopting the ISO 26262 Functional Safety standards, which are the most demanding standards required for solutions involved assisted driving and higher levels of automated driving. That lets us provide advanced driving assistance systems in the safest way for our clients, passengers and also for pedestrians.

Active Safety

All our vehicles are equipped with the most advanced active safety technologies on the market in order to help, warn and assist drivers and avoid risky situations. We also offer the possibility of training on best driving practices in order to minimise distractions and contribute to safer, more efficient and more reliable driving.

Continuous developments and new **active safety systems**, specially designed in order to avoid critical situations, make driving safer and safer.

- TPMS: Tyre Temperature and Pressure Monitoring System
- ABS: Anti-lock braking system
- ASR: Anti-Slip Regulation - Traction control system
- EBD: Electronic Brakeforce Distribution
- EBS: Electronically-controlled Braking System
- ESC: Electronic Stability Control
- Roll and stability tests
- ECAS: Electronically Controlled Air Suspension
- ACC: Adaptive Cruise Control
- AEBS: Advanced Emergency Braking System
- EBA: Extended emergency brake assist EBA
- Downhill speed control
- Hill start assist
- MOIS: Moving Off Information System
- BSIS: Blind Spot Information System
- ISA: Intelligent Speed Assist
- ReIS: Reversing Information System

The driver comes first: Because driver safety, comfort and ergonomics are important.

- In the new generation of Irizar coaches, driver comfort has been improved through the adaptability of the steering wheel and seat, optimised visibility in the rearview mirrors and the ability to regulate air conditioning vents independently.
- In short, these features are a way to pamper drivers, making their jobs easier and creating a sense of well-being that gets passed on to improved safety for all passengers.
- The dashboard area is especially ergonomic and has been designed to maximise driver satisfaction. The instruments and navigation screens are placed strategically to ensure easy reading, and the placement of all controls is based in ergonomic principles so they are easy and intuitive to use.
- Handling for all systems has been radically improved through the use of a joystick, quick access buttons to menus and a colour touch screen. The modern functionality of the HMI (optional on the Irizar i8) is especially notable. It has a central console with a simple quick access menu (cameras, GPS, media, telephone, climate control, etc.) that integrates all the electronic systems.
- The eCo3 air ionizer from Hispacold (Irizar Group) purifies air and minimises driver fatigue.

Additional equipment can be added. We also offer a wide range of equipment for the safety of passengers on their trips such as:

- Sensitive doors and luggage compartment covers to prevent automatic opening and closing.

- Breathalyser ignition interlock device.
- Closed circuit camera system for detection of incidents.
- Central footboard camera

Flame-retardant Materials Flame-retardant materials are used when manufacturing our coaches. Our coaches are equipped with automatic fire detection and extinguishing systems in the engine area and with smoke detectors in the W.C.

The lighting is always perfect. We use the most advanced lighting technologies in order to maximise the visual field and quality both by day and at night and under any climatic situation. Thanks to these systems, we are able to improve visibility and reduce drivers' eye strain, helping them to react quickly in dangerous situations.

- LED lighting technology (light emitting diodes). Longer life and lower consumption.
 - They are used in the entire Irizar line for the first time with the redesign of the Irizar model i6.
- Automatic light and rain sensor.
- LED daytime running lights with automatic ignition.
- Turn signal. This feature is activated when the vehicle is travelling at speeds below 40 km/h. The headlights illuminate the areas on both sides of the coach.
 - Forwards: side corresponding to the steering wheel.
 - Reverse: the opposite side to the steering wheel (the "sweep" zone).
- Headlight regulation and automatic washing system.

Passive Safety

Our priority is to minimise the **consequences for those persons involved in an unavoidable accident**. This is the objective of passive safety. To this end:

- We design the structure of our coaches taking into account resistance to roll-over, front-on collisions and crushing of the passenger compartment.
- Irizar coaches have complied with the R66/66.02 regulations on the roll-over resistance of the structure since before they came into force in 2010.
- In addition to the two-point seat belts, customers can have three-point *comfort belt* seat belts that are height adjustable for all ages and Isofix.
- We comply with European standards for PRM (persons with reduced mobility) in terms of elevator systems and wheelchair anchoring systems.

We develop **seats** with the comfort and safety of passengers, even the smallest ones, in mind. Irizar seats are designed to provide safety and comfort to passengers. They undergo stringent resistance testing to re-



duce injuries and ensure that the minimum residual space is maintained. They comply with the most stringent new regulations, R.14 in Europe, 20G in the USA and ADR80 in Australia.

Rescue safety (post collision)

We also offer ongoing training to **fire departments** for the purpose of teaching them the best way to stabilise coaches and their risk components so that they can perform the best possible extrication techniques.

eCo3 air purifier

The air purifier deserves special attention, because it existed before the pandemic and it continues to be in high demand from our clients. The eCo3 air purifier is a device that drastically reduces fungus, bacteria, viruses, volatile organic compounds, allergens, etc. and removes bad odours. It works by generating negative ions and ozone in the appropriate proportions, increases the concentration of oxygen, thus eliminating odours, maintains healthy levels and prevents the interior air of the vehicle from becoming dirty. It is installed in the return of the climate control system of any new or currently in use bus or coach regardless of the manufacturer. The turbines in the device are what distributes the ozone through the interior of the vehicle to contribute to disinfection. In contrast to other cleaning and disinfection systems, Eco3 is designed to do its job with passengers on board and when the vehicle is moving. This solution has been widely tested on the market and its efficiency has been endorsed by SGS, a global leader in inspection, verification, testing and certification.

Hispacold Climate Control Systems

On the other hand, it should be noted that using climate control systems

from Hispacold (an Irizar Group company) installed on the buses and coaches also contributes to preventing the transmission of infections through bio-aerosols, since they have air renewal systems that guarantee full interior air renewal every three to six minutes. The renewal can be increased if the renewal gates are kept fully open. With open nozzles there is a vertical air flow from top to bottom at a speed that makes cross contagion between passengers difficult and with closed nozzles, the design of the nozzles generates a "bubble" or "bell" effect around the passenger that creates a barrier to bio-aerosols generated around it.



New Driving Assistance Systems

In line with their strategy of alliances, Irizar reached a **collaboration agreement with Mobileye from the Intel Group**. Mobileye is a global leader in developing advanced digital functionalities aimed at tackling different degrees of automation. The objective of the agreement is to improve the safety, efficiency and connectivity (5G) of the Irizar Group buses and coaches.

One of those functionalities is the accident prevention system that identifies potentially dangerous situations and gives visual and acoustic signals to help the driver avoid or mitigate a collision. It acts like a "third eye" that is constantly watching the road in front of the vehicle".

This intelligent system warns of an impending frontal collision with a vehicle, including motorcycles, pedestrians and cyclists, both on the road and in the city, up to 2.7 seconds before it occurs. It helps maintain the correct safety distance with the vehicle in front and activates audible and visual warnings if the distance becomes unsafe. It activates visual and acoustic warnings up to 2 seconds before an involuntary departure from the driving lane. It recognizes traffic signals and speed limit signs and is able to switch from high-beam to low-beam lights automatically so other road users do not get blinded.

As a result of this agreement, all Irizar integral vehicles will be equipped with these systems starting October 2019.



3.7.2. Cybersecurity

UN cybersecurity regulations for vehicles 155 and 156

The United Nations has issued the first international regulation that regulates the cybersecurity of vehicles (UN 155) and software updates for vehicles (UN 156).

Irizar, as an **OEM** located in one of the 57 countries that are signers of the 1958 agreement, and that wants to sell its vehicles in that market, **is affected by regulations 155 and 156 by the UN**.

Regulations 155 and 156 require manufacturers of original equipment to obtain CSMS (cybersecurity management system) and SUMS (software update management system) certifications along with "vehicle type" homologations for every type of vehicle they want to sell on the market.

The approach to this analysis used a study of the various requirements of the ISO/SAE 21434 standard that deals with the cybersecurity perspective (R155) during the entire life cycle of vehicles, from general cybersecurity management to the phases after development and distributed activities.

The process that was executed regarding software updates was also analysed, the standard (R156) is based on ISO 24089.



With the goal of meeting both standards and be able to obtain both certifications, Irizar S. Coop. and IRIZAR E-MOBILITY have modified and creates processes that affect all areas of the organisation.

To make cybersecurity engineering possible, the Irizar Group created a **cybersecurity policy**, where it was stated that cybersecurity governance and culture would be maintained in the organisation. The policy includes recognition of the importance of cybersecurity for road vehicles, and acknowledges the responsibility of all the members of the company to meet the goals set forth.

Through this policy, Irizar is committing to meeting all the cybersecurity requirements set forth by the company, like guaranteeing the confidentiality, integrity, availability and privacy of the information saved in them.

CIBERBUS project

In order to confront those potential threats, in 2023 the Irizar Group continues with the [**CIBERBUS project started in 2022**](#), whose **general goal is to minimise the risks of cyberattacks**, for both **the internal manufacturing processes of the business group and its products** (buses, coaches and trucks), developing **tools** for that purpose that will let us **minimise the possibility of cyberattacks and to mitigate them if they occur**.

The CIBERBUS project called "Developing tools for manufacturing new lines of cybersecurity, buses and coaches" was financed by the department of economic development and infrastructure of the Basque government (HAZITEK programme) and the European Regional



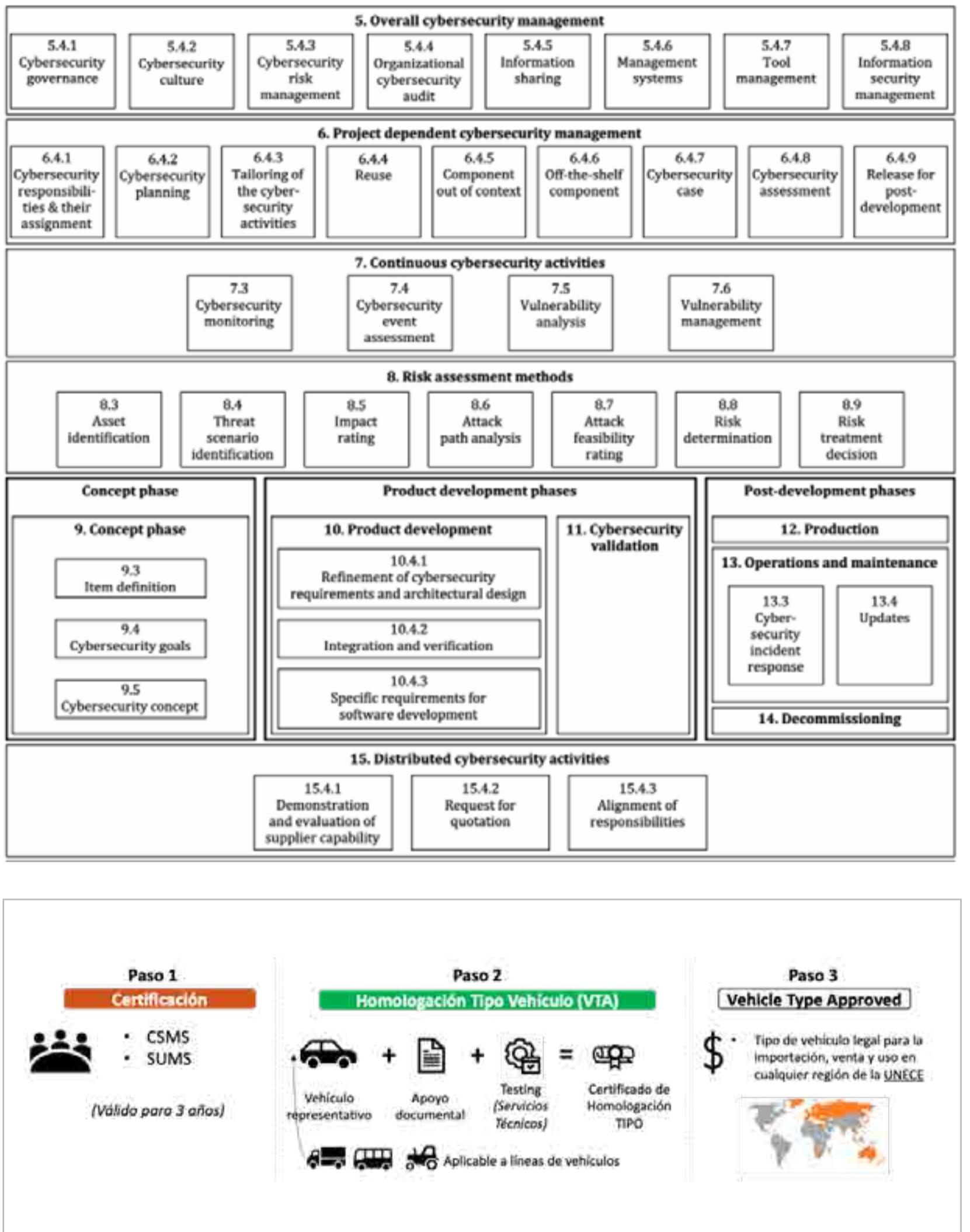


Development Fund (ERDF) in 2022 and 2023.

We have set the following technical goals to achieve that general goal:

- Create the specifications for the cybersecurity tools to develop, and identify the primary security challenges and the associated impacts, in addition to the tools and procedures that will be used. A plan for the detailed design of the cybersecurity will be created using those requirements a roadmap for implementing and developing the different tools.
- Design and develop the tools for the cybersecurity operations framework for vehicles and manufacturing processes Along those lines, two items will be developed:
 - An automotive cybersecurity management system for the entire organisation (CSMS)
 - Cybersecurity systems that can be implemented in all the lines of vehicles
- Validate the cybersecurity system tools, and create and execute the testing plan

In relation with this project, in 2022 the integration and implementation phase for the cybersecurity management processes in the Irizar system was undertaken. The certification audits for regulations 155 and 156



were subsequently carried out successfully, at both Irizar S. Coop. and Irizar e-mobility. In parallel, the architectures of the electronic systems of the vehicles were designed alongside world-class companies so that, in addition to the vehicles manufactured after 2024 passing the most demanding cybersecurity tests, they get VTA vehicle type certification with the GSR2 regulation and **they provide maximum security for our clients**.





3.7.3. Towards autonomous driving

Connectivity and digitalization will play a crucial role in the future of mobility. Autonomous vehicles and new and more efficient services will shape this future. At the international level, six levels (from 0 to 5) are defined to classify autonomous driving. This classification system describes the degree of automation of vehicles and the role the driver must have.

Automation levels - SAE (Society of Automotive Engineers)



LEVEL 0	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
NO AUTOMATION	ASSISTED DRIVING	PARTIAL AUTOMATION	CONDITIONAL AUTOMATION	HIGH AUTOMATION	FULL AUTOMATION
No automation: the driver performs all driving tasks.	The vehicle is operated by the driver, but some assisted driving functions may be included in the vehicle design.	The vehicle has combined automatic functions, such as acceleration and steering, but the driver must remain in control of the driving system and monitor the surroundings at all times.	The controller is a necessity, but it is not necessary to monitor the environment. The driver must be ready to take control of the vehicle and must remain alert at all times.	The vehicle is capable of performing all driving functions under certain conditions. The driver has optional control of the vehicle.	The vehicle is capable of performing all driving functions in all conditions. The driver has optional control of the vehicle.

The Irizar Group is working to introduce different levels of automation for both buses and coaches. Self-driving vehicles (SDV) will progressively become a reality, as the result of a process of gradual transfer of responsibilities from driver to vehicle, until what is known as the 'Virtual Driver' is achieved. The depth of the transformations that will be required for the Autonomous Driving at the level of Electrical Architecture, Topologies and Domain Structure is still uncertain, but requires gradual progress.

For zero-emission urban vehicles, the Group is currently actively participating in local and European projects with the objective of reaching level 5 of driverless operation. Among those projects, **AutoMOST** and **AUTODRIVE** stood out. And now, we are continuing with the **DIGIZITY** y **SHOW** projects.

Work is also taking place on driverless medium and long-distance coaches, with investment in advanced driver assistance system (**ADAS**) projects. Some functions that have been developed are traffic signal detection, intelligent headlight control, signal recording, bicycle, animal and pedestrian detection, and lane change assistance, to name the primary ones.

Even though the main focus is autonomous driving, the context or justification of those projects is the implementation of the **MaaS** (mobility as a service) methodology. The idea is that those driverless vehicles can become an on-demand transport fleet such that users can arrange transportation services according to their needs in a completely flexible way.

Previous advancements

Our first zero-emissions driverless bus [was on the road in Málaga in 2021, it was the first high-capacity one put into real use in Europe.](#)

It was part of the **AutoMOST** project, which won important European prizes and was also highlighted by the *World Economic Forum*. This project, which was a major challenge for the Irizar Group, was the first solid step towards the mobility of the future; sustainable, connected, safe and driverless mobility.



- The first 12-metre long 100% electric driverless Irizar bus was the outcome of the pioneering AutoMOST project. And it was financed by the CDTI through the CIEN programme, which Avanza participated in as an operator alongside 11 partners, including the Irizar Group through Irizar e-mobility, and it involved putting a standard sized ve-

hicle into circulation in a real traffic situation in a city. The Universidad Politécnica de Madrid, Insia, CEIT-IK4 and the Universidad de Vigo also participated in the project. It was a R&D+i pilot project that started five years ago and ended, as planned, in 2021.

- The project had two characteristics that made it a significant milestone, which were the capacity to transport passengers and interaction with vehicles, pedestrians and infrastructure under real traffic conditions.
- The *World Economic Forum* highlighted the 100% electric Irizar bus as the first European driverless bus on the road. And in 2021 they published: "This electric bus drives itself through the Spanish city of Málaga" <https://www.weforum.org/videos/21830-this-electric-bus-is-driving-itself-through-the-spanish-city-of-malaga-mp4/>



- AutoMOST was awarded the ITS prize for Driverless Connected Vehicles granted by ITS Spain. In 2021, the prize recognised AutoMOST as the [most important project in the country in the field of autonomous and connected vehicles](#).

- In 2020, it won the **Industrial Development Prize from the IEEE-ITSS (Intelligent Transportation Systems Society)**.
- AutoMOST will be an implementation of shared control systems (dual mode) in future autonomous passenger transport vehicles that makes it possible to operate services in a more flexible and efficient way in a context of smart and connected infrastructures.

We have also participated in the **AUTODRIVE** project whose MAIN GOALS were to design of electronic components that are: (i) self-aware against failures (self-diagnosis), (ii) fail-safe, (iii) operational against failures (redundancy of HW and SW), and system architectures that allow the introduction of automated driving in all vehicle categories.



- The results of AUTODRIVE will significantly contribute to safer and more efficient mobility. The project will increase end-user acceptance

and comfort by supporting driving in highly demanding situations, as well as in normal driving situations. The combination of both will reduce accidents especially in rural environments and under adverse weather conditions.

- AUTODRIVE will contribute to Vision Zero for Europe and increased efficiency. This will reinforce the leadership and increase the market positioning of all the AUTODRIVE consortium members.
- The project ended in 2020, and it has already been useful for Irizar and Irizar e-mobility to gain more knowledge about the critical challenges of autonomous driving and strengthen the relationship with our technological collaborators.

The lessons learned with AUTODRIVE made possible the design and work we have been doing on later projects.

DIGIZITY

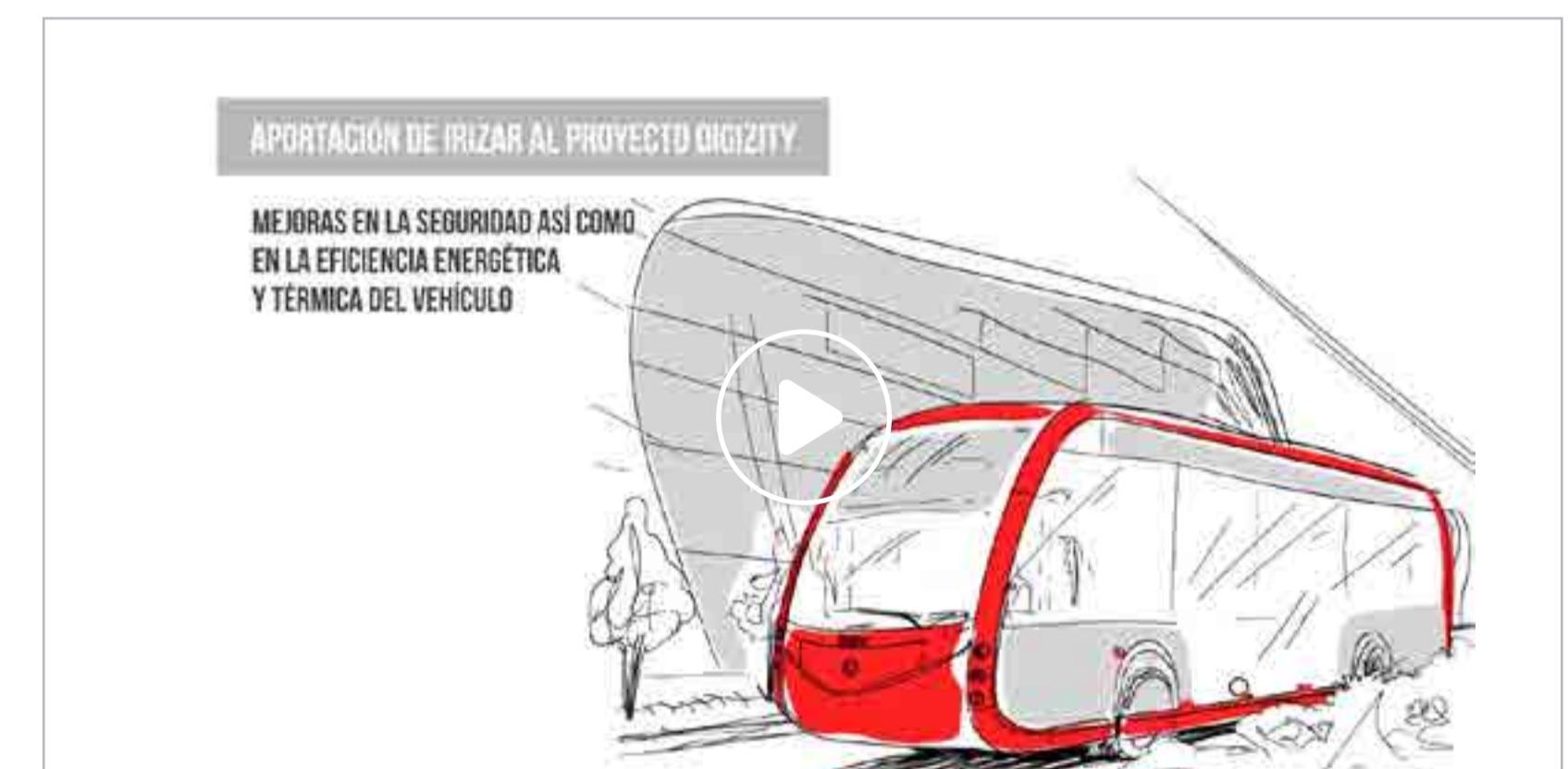
We are continuing with several automated driving initiatives, like the ones that include the **DIGIZITY project**, which has a wider scope: Industrial research into innovative solutions for decarbonising, digitising and automating urban transport with zero-emissions buses.

It is a project financed by the European Union – Next Generation EU through the 2021 Sustainable Automobiles Technology Programme tender and in the framework of the Recovery, Transformation and Resilience Plan of the central government plan for catalysing business innovation and leadership of the 2021-2023 National Plan for Scientific Research and Innovation backed by the Centre for Technical and Industrial Development (CDTI).

Nine members participated:

- Six companies AVANZA SPAIN, S.L. (a client of ours who leads the project), IDNEO TECHNOLOGIES, S.A., S.A. TELNET REDES INTELIGENTES, S.A., INTERNACIONAL HISPACOLD, S.A., IRIZAR, S.COOP and JEMA ENERGY. The last three are part of the Irizar Group.
- Research bodies ITAINNOVA (Instituto Tecnológico de Aragón), the TECNALIA Research & Innovation foundation and CTAG (Centro Tecnológico de Automoción de Galicia)

It brings together manufacturers of buses, engines, components and on-board systems, telecommunications equipment and a large fleet operator.



Watch video: <https://www.youtube.com/watch?v=pWjUyrS4Ly8>

In 2022, Irizar and other representatives of the consortium had the opportunity to visit the ITAINNOVA (Instituto Tecnológico de Aragón) fa-

cilities, and a debate forum about the solutions they were working on was created on the project and the next steps within the frameowrk of the DIGIZITY project. It was a chance to realign interests between Avanza (operator) and Irizar (manufacturer).

In 2022, Irizar worked on updating one of its platforms, the 12 metre Irizar ie tram, with the latest advances in safety, comfort and self-driving technology, within the framework of the DIGIZITY project.

In 2023, the Irizar Group was able to validate several solutions developed in previous years. In the first half of 2023, PHASE 1 of validations of the project was done, in which we were able to do an initial validation of the numerous systems and subsystems developed by the partners of the consortium in tests without travelling.

In the first tests, which were done directly in the Exceptional Area of Zaragoza (EAZ, line 40), we were able to obtain enough data to propose improvements and corrections for several systems and subsystems.



With this project, mobility 4.0 is arriving at the capital of Aragon, putting it at the vanguard of the future and of sustainability and innovation through artificial intelligence. Zaragoza will be the first city domestically or internationally to have the benefits of a pioneering project by testing more than 50 products, systems and subsystems aimed at making public transport cleaner, more efficient, safer and more comfortable. Furthermore, the city will improve the safety of Avenida San José, which is an especially sensitive traffic area.

*Today, driverless technology is making an important contribution to **environmental sustainability**, because energy consumption can be managed more efficiently. In addition, it goes hand in hand with electrification and implementing zero-emission vehicle technologies.*

*The zero-emissions 12 metre Irizar ie tram automated vehicle has driving assistance that contributes to guaranteeing **safety** and minimises the possibility of accidents. The driving assistance does not eliminate drivers, it assists them to improve safety. It reduces accidents or incidents by reducing human error (fatigue or speeding, etc.).*

*The goals of the project are clear: automated and intelligent vehicle usage, 5G and WiFi 6 connectivity, technological and smart city infrastructures, artificial intelligence and latest generation solutions for users. **A connected, intelligent and cybersafe vehicle was developed with this project.** It is connected in real time/5G with a network that has been deployed for that purpose.*

After a development period, in the second half of 2023 we did what we call PHASE 2 of validations, this time with passengers, in which we validated all the solutions together and we could obtain significant results under realistic operating conditions.

Even though the project formally ended in late 2023, the validations are expected to continue until the first quarter of 2024, because all the partners are interested in obtaining as much data as possible, which helps develop solutions in the future that bring improvements in comfort, safety and efficiency.

SHOW

We can also highlight our participation in the **SHOW project** (shared operation models with universal deployment), in which, coordinated by the **UITP (the International Association of Public Transport)**, we are a consortium of 70 partners from 13 EU countries with collaboration expected from 11 international organisation from the Americas, Asia and Oceania (USA, South Korea, Australia, China, Japan and Singapor, among others). The technical and innovation director of the project is CERTH/HIT (Hellenic institute of transport), and it has a planned duration of 2020 to 2024.

The global GOALS of the project are:

1. Identify and specify priority automated urban mobility scenarios that guarantee high acceptance among users, true user demand and profitability under realistic operating conditions
2. Identify new business opportunities, develop innovative business models and products and services that are exploitable for sustainable fleet operations in urban and inter-city environments

3. Develop an open system architecture that is modular and inclusive and the tools necessary for it that make possible data gathering, analysis and meta-services between locations, between vehicles and between operators
4. Improve the functionalities needed for all kinds of vehicles: shuttles and capsules, buses and cars taking into account the local physical and digital infrastructure, the climate and traffic conditions, improving their energy efficiency and safeguarding the safety of vulnerable traffic participants using appropriate interfaces
5. Deploy demonstration fleets, infrastructure elements and connected services (DRT, MaaS, LaaS, etc.) to carry out and validate shared electric, personalised and continuous cooperative connected automated vehicle services (CCAV) for all passengers in real urban and peri-urban traffic in settings throughout Europe and through broad global international collaboration
6. Evaluate the impact of cooperative and shared automated electric fleets in cities using a holistic impact evaluation
7. Transfer the results through testing alternative operating schemes and commercial models to replication sites throughout Europe and beyond
8. Support deployment of the automation of urban traffic through replication models, route mapping, training schemes and training for the future workforce, contributions for certification and standardisation activities and policy recommendations

With this project, at Irizar we worked on R&D to continue development of the driverless connected vehicle by developing technological solutions for the future, focusing on:

- **An automated bus garage:** where vehicles can do manoeuvres in an automated way, like parking and going through washing tunnels



- **Platooning:** It is the first completely instrumented vehicle that can guide a group of vehicles. Connectivity between vehicles is absolutely necessary for that.

In May 2022 we participated in an event (which kicked off the "pre-demo" tests) along with representatives of the city, the EMT and the demonstrator consortium of Madrid. A forum was set up at the event to debate au-

tonomous driving and urban mobility in the future from several points of view: political, operational, social and technical, etc.

In 2022, we started "pre-demo" testing at the EMT garages where the Irizar vehicle provided circular service in the garage without a driver, carrying drivers and technicians between key points.

Watch video: <https://www.youtube.com/watch?v=kzEE-9KMxDg&t=217s>

In October 2022, Madrid hosted the third Pan-European Workshop in the framework of the SHOW project where we could demonstrate the progress made by Irizar and the EMT for the entire project consortium as well as representatives of the European commission and representatives from other projects.

We finished operations in the garages in 2023. In turn, we worked on updating the solutions on board the vehicle with assistance from the project partners, as well as entities like the UAH (Universidad de Alcalá de Henares), to adapt it to the performance and safety requirements needed for the vehicle to be able to drive under real urban setting conditions.

In 2023, the number of driverless operating hours in the garages increased considerably, providing circular transport services in the garages 2-3 days a week for 5-6 hours a day.

Even though doing operations in a real urban environment was planned before the end of 2023, it was not possible. The tests are expected to be done in the first quarter of 2024.

3.8. Connectivity - Big Data

The Irizar Group offers intelligent driver assistance systems with a range of optional equipment to provide drivers and passengers an optimal form of mobility. Extensive experience in artificial intelligence and *deep-learning* enables Datik to offer fleet management, preventive and predictive maintenance. All of that is centred in our cloud.

Those systems are designed and intended for the owners of bus fleets, to help them resolve daily incidents quickly and to reduce maintenance and fuel costs. They notify drivers about poor driving habits, inform fleet managers about any significant incidents in real time and they continuously analyse the behaviour of vehicles insofar as consumption and maintenance.

It is a perfect management tool to achieve the highest fleet profitability, because it:

- 1. Increases productivity.** The system provides control and reaction capacity valued by passengers and drivers. That capacity translates into service quality guarantees, which is directly converted into a production increase.
- 2. It reduces fuel use,** providing the ideal scenario for meeting savings goals: data analysis, classifications, periodic comparisons and control mechanisms for manoeuvres that involve high fuel consumption.

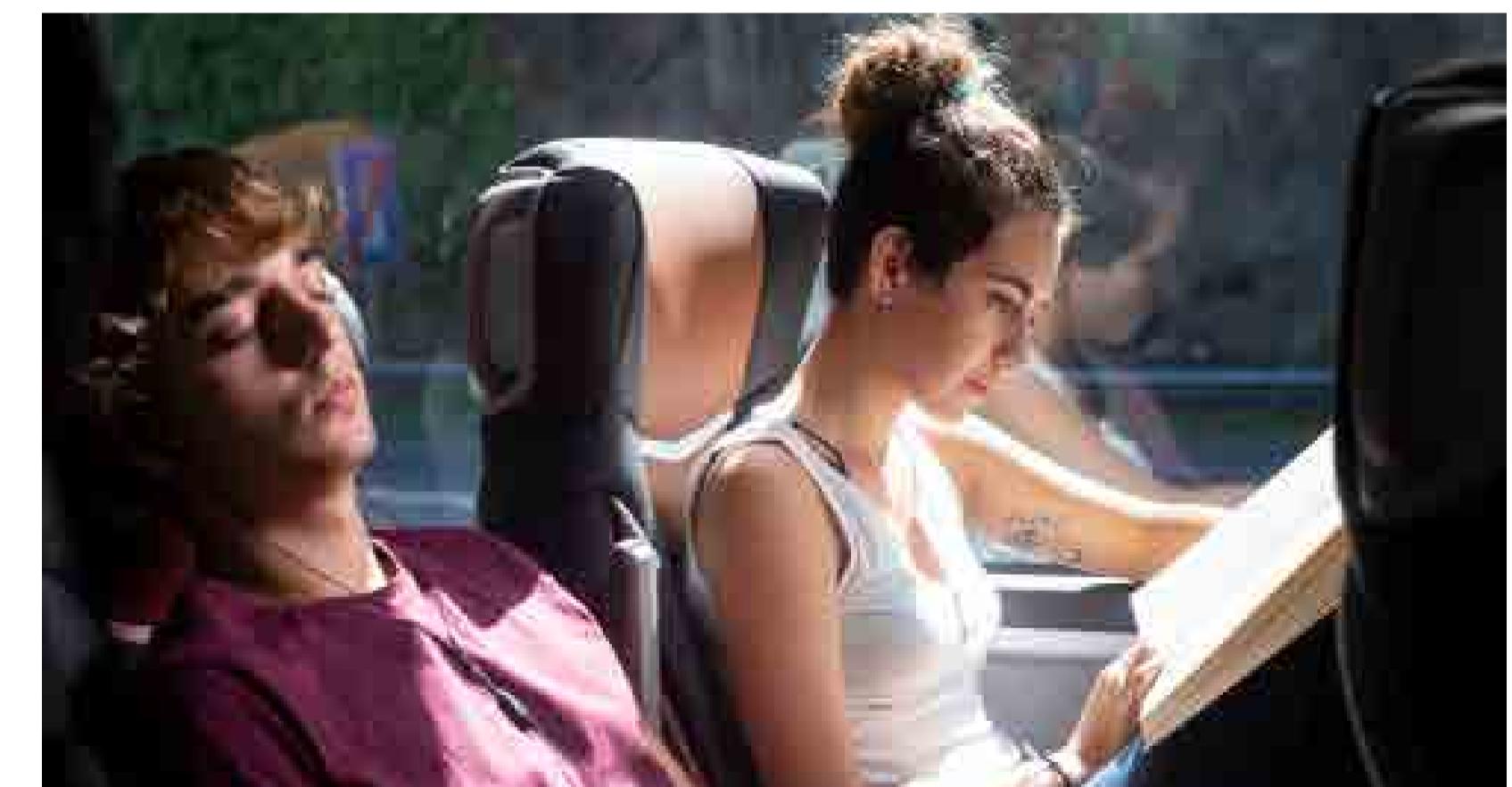
- 3. It controls maintenance.** The precision of data and mapping for the active alarms of the fleet, which only this tool provides, is an invaluable advantage for monitoring, prevention and proactivity.



3.8.1. Fleet manager

It gives operators a context for monitoring the fleet. The attached data on incidents, alerts, conditions and position of the entire fleet outline a scenario that guarantees a quality service.

- Real-time monitoring:** Geo-localised fleet with detail real time information for making decisions that increase productivity
- Lower consumption:** Advanced consumption analysis, aimed at improvements in driving and lowering costs Identification of the appropriate vehicle model for daily operations.
- Incident management:** The fleet manager has all the information so they can act effectively through the incident manager.



3.8.2. Maintenance

It allows our clients to configure maintenance plans for their fleet. Vehicles are grouped together and assigned a specific plan of inspections and stops determined by time, mileage or technical suggestions. A fundamental tool for the management and availability of the fleet thanks also to the receipt of prior notifications.

Nevertheless, fleet optimisation starts with a **preventive maintenance plan** that maximises vehicle availability.

- **Maintenance plan design:** A plan is set up with the stops and interventions needed to guarantee fleet availability. The plan makes it possible to coordinate preventive and corrective stops to monitor all the actions done on the fleet.
- **Action registry:** All actions are specific things done in the garage that have been done in every intervention, in which the user can eliminate or include actions of the plan depending on what has really been checked or repaired.

And what happens if an alarm is activated on the vehicle? The DTC (Diagnostic Trouble Codes) of the vehicles are transmitted to the manager in real time. Depending on its type, the repair urgency is suggested together with the instructions for the actions in the workshop, to minimize the downtime required for the vehicle.

If more information is needed, remote telemetry download allows detailed analysis of alarms. This analysis makes it possible to diagnose the condition of the vehicle.

- **Active alerts (DTC):** Real-time reception of the alerts the driver sees on the dashboard View and classify active maintenance alerts registered on all the vehicles in the fleet
- **Troubleshooting:** Proposed specific corrective maintenance actions to accelerate the recovery of vehicle operating capacity. In the event of a stop, the client can optimise it by doing tasks from the next preventive maintenance intervention
- **Remote Black Box:** The incident manager can remotely download telemetry data with a precision of 1s. It is detailed information that helps understand the behaviour of the driver and vehicle.

Big Data applied to transport provides appropriate information at the right time. That lets operators evaluate the availability history of each vehicle alongside the energy consumption reports. Thus, the fleet management process can be optimized by increasing productivity and achieving a more profitable business.



WE CREATE VALUE FOR OUR PEOPLE

4

Contributing to the SDGs and goals of the UN 2030 Agenda:

Priority SDGs



- 8.1. Maintaining economic growth
- 8.2. Raising productivity through diversification, technology and innovation.
- 8.5. Achieving full employment and decent work
- 8.7. Eradication of slavery, trafficking and child labour
- 8.8. Protection of labour rights and safe work



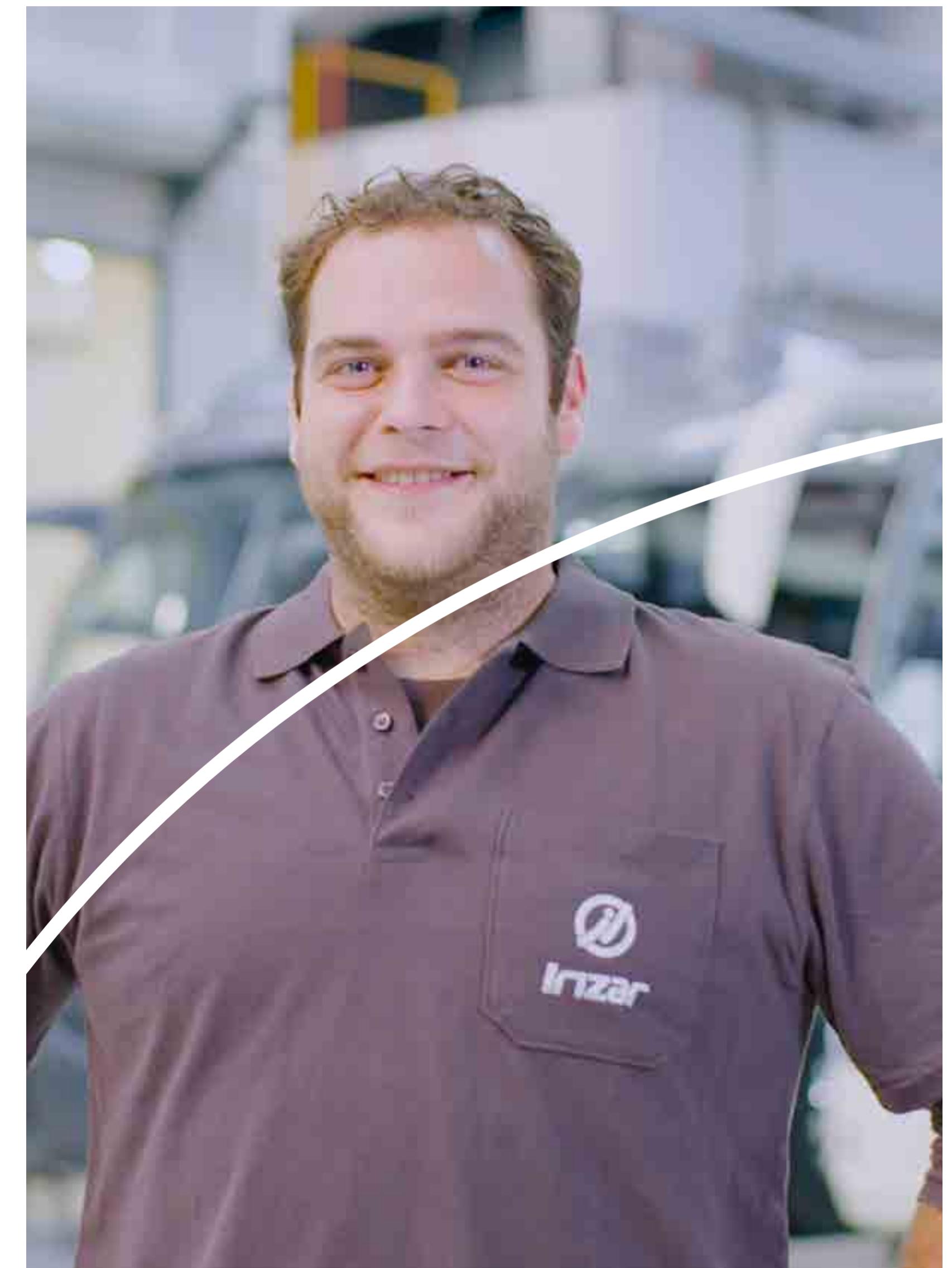
- 12.6. Adoption of sustainable practices in businesses
- 12.8. Ensuring education for Sustainable Development

Transversal SDGs



- 5.1. Ending discrimination
- 5.5. Ensuring the full participation of women and equal opportunities in leadership

- 16.2. Eradication of child abuse, exploitation, trafficking and child exploitation
- 16.5. Reducing corruption and bribery
- 16.7. Promoting citizen participation
- 16.10. Access to information and fundamental freedoms
- 16.11. Promotion and application of laws and policies (Human Rights)



WE CREATE VALUE FOR OUR PEOPLE

4



4.1. People: key actors in Sustainable Competitiveness

- Commitment to our people integrating the SDGs of the 2030 Agenda
- Social Innovation for Equal Opportunities.

4.2. Commitment to quality employment

4.2.1. Job creation and evolution of workforce

- Job creation
- Workforce distribution by gender, category and age.
- Quality of recruitment, remuneration and salary gap.
- Rotation, entries and exits (by sex and age) and dismissals.

4.2.2. Organization of work and commitment to work-life balance

4.2.3. Participation in the management and economic results

- Participation in economic profits.
- Participation in management
- Participation in Strategic Thoughts

4.2.4. Employment Promotion

4.3. Communication, transparency and participation

4.3.1. Leadership and teamwork

4.3.2. Communication and transparency

- Forums at the highest level where all personnel participate
- Company Board, Regulation of Internal Arrangements and Collective Agreement
- Other communication channels

4.4. Strengthening talent: Education and training

4.5. Gender equality, diversity and social inclusion

- 4.5.1. Gender equality
- 4.5.2. Diversity and social inclusion

4.6. Health and Safety

4.6.1. Occupational Hazard Prevention System

- Frequency and incident rates
- Incident rate and accidents at work with sick leave.

4.6.2. Ergonomics-Comfort Programs

- Regular activities and measures taken in recent years
- Future plans

4.6.3. Other health and well-being services

4.7. Shared leisure activities

4.1. People: the key actors in Sustainable Competitiveness

The people are undoubtedly the key players in achieving sustainable medium and long-term results. **Having high levels of satisfaction, motivation and commitment for ALL people at Irizar (worker-partners and employees) is the only way to achieve a culture of excellence, Sustainable Competitiveness and future success for the Irizar Group.**

In accordance with this firm conviction, we work resolutely so that the people of Irizar want to contribute their talent to realizing both our Mission and our strategic challenges, as well as our dream of contributing to the construction of a Better and more Sustainable World.

We uphold an open and transparent culture with the firm conviction that business activities with respect for total integrity are the only basis possible for achieving sustainable success. We are convinced that the **main instrument for strengthening Integrity is an Organizational Culture based on shared ethical values and assumed by all the people in Irizar, as it constitutes the best element for preventing bad practices, illegal or even criminal behaviours.**

To achieve that, **starting with the CEO and management team, it is VITAL to keep driving our commitment to EVERYBODY.**

- A. We offer attractive, fair working conditions (both in Human Rights and Labour Standards) with long-term perspectives. We can affirm that our philosophy for new hires to the Irizar Group is aimed at permanence and stability.
- B. We make long-term investments in talent. We work constantly to improve the quality and attractiveness of employment and to incorporate, develop, and retain qualified personnel.
- C. We promote continuous training for them and the development of their personal and professional lives, strengthening the abilities of every person out of the belief that everyone and their talent are paramount. Training, the capacity for adaptation and flexibility are keys for responding to changes, uncertain situations and new challenges in the future. Digitalisation and automation are undoubtedly new scenarios to which we must adapt.
- D. We promote trust, communication, leadership, participation, self-management and teamwork and provide a work environment where everybody can contribute something more to the business project in accordance with their possibilities and hopes. We understand that it is the way to encourage everybody to do the part of the process they are responsible for with responsibility, professionalism, ethics and rigour and, in short, have people who are committed to the project, mission, vision, keys and common values so we can achieve the goals that have been set.
- E. We stand for equality, non-discrimination, and respect for diversity.
- F. We facilitate co-responsibility and a good balance personal, family and professional life balance by making flexible working hours possible, reducing workdays and the possibility to take a leave of absence.
- G. We do that to preserve their long-term health and safety.
- H. We encourage everyone to actively contribute to environmental balance, working to minimise any impact derived from our business activities and the preservation of our natural environment.
- I. We encourage working against corruption in all forms, including extortion and bribery.
- J. Making participation a reality for the design of the Company's strategy for the future beyond mere performance in daily operations.
- K. We share business economic results, even with employees who are not members of the Cooperative. We provide significant advantages and attractions that differentiate us from the other companies in the environments where the Irizar Group is present.

In 2022, we had to continue making a concerted effort to be able to progressively overcome the complicated situation caused by the pandemic, both in terms of prevention and designing, developing and manufacturing new models in a short space of time. The progress we made was only possible thanks to the enormous effort and hard work done by all the people who made up this Project. As we saw in chapter 2, about our Sustainable Competitiveness, in 2023 we had already gotten through the worst and recovered a pre-pandemic situation.

Our goal is to keep cultivating talent at the same time we create high quality jobs. Of course, we want to do that within a company culture and approach with integrity that is guided by Ethical Principles.



Commitment to our people integrating the SDGs of the 2030 Agenda

As we put forth in chapter 2, about Irizar and **Sustainable Competitiveness**, in 2022 we took a leap in our commitment to the SDGs of the 2030 Agenda, measuring our impact in high-priority KPIs. We have consequently decided to strengthen our creation of value for our people:

A. CLIMATE: A KPI for reducing GHG scope 3 category 3 emissions (caused by business trips and commuting to work by people at Irizar). It can be seen in detail in the chapter about the environment.

C. TRUST AND INTEGRITY: Two KPIs for making progress in trust and training/awareness raising for people about the ethics and legal compliance system at Irizar. All of that is handled in more detail in chapter 2 about our Sustainable Competitiveness.

D. EQUALITY: Three KPIs to make progress in gender equality, increasing gender diversity, especially in senior positions and new hires, reducing the wage gap and training everyone in equality. That is handled in chapter 2 about our Sustainable Competitiveness and section 4.5 of this chapter.

E. DECENT WORK: Four KPIs for facilitating a safe and healthy work environment, encourage workers to become cooperative members, pay fair wages to everyone and increase people's commitment to the Irizar Project.

F. EXTENDING SUSTAINABLE DEVELOPMENT: A high priority KPI for training/awareness raising for people at Irizar in Sustainability. This is discussed in detail in chapter 2, about Irizar and Sustainable Competitiveness, and it is also mentioned in section 4.4 of this chapter.

As we discussed in more detail in chapter 2, about our Sustainable Competitiveness, in 2023 Irizar participated in the **Business & Human Rights Accelerator learning programme of the United Nations Global Compact**, after deciding to drive our progress in human rights in December 2022 and to prepare ourselves for the future European due diligence directive for companies for Sustainability regarding human rights and the environment in worldwide supply chains. From January to September 2023, with backing from upper management, People management and the Sustainable Competitiveness Manager participated in the Business & Human Rights Accelerator, which was designed to give companies the tools and knowledge they need to establish a continuous due diligence process regarding human rights and to guarantee they are respected. That training enabled our progress in our commitment and practices regarding human rights to prevent risks and avoid harm to people.

After the training, the Spanish UN Global Compact gave us the opportunity to belong to a **continuous Learning Group about Human Rights**. Since then, in addition to learning with experts and getting support materials, we can share experiences, knowledge and challenges with 45 other companies that are already working hard on human rights. Without a doubt, it will contribute to facilitating our progress with integrating our commitment to respecting Human Rights in our value chain, in strategy as well as operations.

At the end of 2023 we included the following in our Sustainability priorities: **HUMAN RIGHTS - Managing the most serious risks for people** As the first thing to put it into action, we agreed on the first draft of the human rights policy for the Group, which was agreed upon by the president, People Management and the Sustainable Competitiveness Manager. In 2023, we shared it with the CEO of the Irizar Group to improve it and keep making progress on the following steps in 2024.

We thought that all of that would also have a positive impact on the people at Irizar, even though it will fundamentally impact progress towards a more responsible supply chain with our suppliers and other external collaborators.

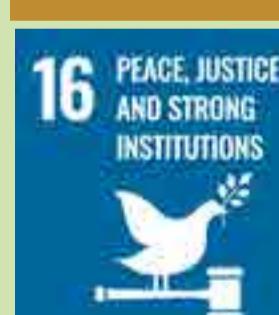


PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
A. CLIMATE										
		3. Reduce TOTAL GHG emissions Includes: Scope 1 and 2: CATEGORY 1: Direct GHG emissions and removals CATEGORY 2: Indirect GHG emissions caused by imported energy Scope 3: CATEGORY 3: Indirect GHG emissions caused by transport CATEGORY 4: Indirect GHG emissions caused by products Irizar uses CATEGORY 5: Indirect GHG emissions associated with the organisation's use of products	tCO ₂ eq	1,713,290	1,659,534				-5%	2022 - Annual
				ISO14064-1:2019	(-3%)					
										

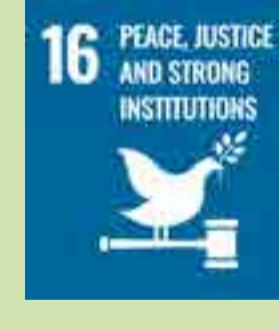
BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
C. TRUST AND INTEGRITY										
			9. Level of confidence of people at Irizar to report unethical behaviour	Average % value Survey / Total workforce (0-100%)					60% 80%	2024 2030
			10. Train/raise awareness of people at Irizar CULTURE ethics and legal compliance:							
			• Ethical Code, ethics and compliance system	% people trained / Total						100%
			• Crime prevention system	% people trained / Total people in high risk areas						2025
			• System for protecting personal data and guaranteeing digital rights	% people trained / Total						100%
			• New hires trained in the code of ethics and ethics and compliance system	% people trained / Total new hires						2025
										Base year: 2024
			11. Training people from companies from the Irizar Group in ethics and legal compliance:	% companies trained / Total						100%
			a. Branch offices	a.						2026
			b. Other coach companies in the Group	b.						Set priorities and deadlines by type
			c. Rest of Group companies	c.						Base year: 2024

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE	
D. EQUALITY											
	 5 GENDER EQUALITY	15. Increase gender diversity in:	a. hiring b. the Management Team (group 1+2) c. Management area/ middle management (group 4+5+6) d. Governing council	% women % women % women % women	26.32% 0% -- 0%	17.07% 0% --- 11.11%	22.22% 0% 21.00% 22.22%	9.52% 0% 21.00% 22.22%	18.60% 0% 21.00% 11.11%	10-20% 20% 20-30% 20%	2030 2030 2030 2030
	 8 DECENT WORK AND ECONOMIC GROWTH	16. Reduce the wage gap between women and men	Group 1 + 2 (CEO + Management Team) Group 3 (management) Group 4 (technicians) Group 5 (administrators) Group 6 (direct personnel)	% salary ratio women / salary ratio men	0%	0%	0%	0%	0%	99-100%	2026
	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	17. Train/raise awareness of people at Irizar in Gender equality Gender Equality Plan Harassment Protocol, etc.	• New hires trained in gender equality	% people / Total workforce % people trained / Total new hires					86%	100%	2023 - biannual
	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION							100%	100%	2023 - Annual	Base year: 2023
	 16 PEACE, JUSTICE AND STRONG INSTITUTIONS										

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE	
E. DECENT WORK											
 LABOUR The International Labour Organisation (ILO) defines decent work as: "productive work for men and women under conditions of freedom, equity, safety and human dignity".	 5 GENDER EQUALITY	18. Providing a safe and healthy work environment:	No. accidents/hours worked	48.33	34.37	50.22	50.57	56.97	40 - 50	annual	
			a. Reduce the frequency rate of accidents	No. accidents / No. people	76.78	48.93	81.83	81.76	85.98	70 - 80	annual
		 8 DECENT WORK AND ECONOMIC GROWTH	19. Worker partners Differential factor compared to NON-cooperatives	% members / AVERAGE total workforce	87.78%	90.03%	97.82%	93.93%	82.68%	Always above 80%	annual
		 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	20. Pay ALL our workers at least a living wage Global Compact definition of a living wage: https://bit.ly/3r57Wq6	% salary / living wage Compared with the <u>metal collective bargaining agreement</u> for the most common positions: - engineer or university graduate (MOI) and - product technician (MOD)						100%	100%
		 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	21. Increase the people's level of commitment (Includes: Expectations, commitment and feeling)	Average % value Survey / Total workforce (0-100%)						60%	2024

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

SUSTAINABILITY REPORT 2023

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
F. EXTENDING SUSTAINABLE DEVELOPMENT										
 HUMAN RIGHTS	 5 GENDER EQUALITY  8 DECENT WORK AND ECONOMIC GROWTH  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  12 RESPONSIBLE CONSUMPTION AND PRODUCTION  13 CLIMATE ACTION  16 PEACE, JUSTICE AND STRONG INSTITUTIONS  SUSTAINABLE DEVELOPMENT GOALS	22. Train/raise awareness of people at Irizar in Sustainability: - <u>BASIC</u> : Definition, 10 principles and SDGs - Human and labour rights - Environment - etc. Prioritising: <ul style="list-style-type: none">Management TeamManagers of: areas, processes or relevant teamsGoverning CouncilOther indirect staffRest of people at Irizar <ul style="list-style-type: none">New hires	% people with BASIC training / Total workforce No. people with more specific training % people with BASIC training / total new hires						1.23% Base year: 2023	100% Base year: 2023
 LABOUR								8 ED	11	No. people to prioritise as applicable Base year: 2023
 ENVIRONMENT									0%	100% Base year: 2023
 ANTI-CORRUPTION										Since 2024 Annual

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

Social Innovation for Equal Opportunities

In 2019, we started a Social Innovation Project for Equal Opportunities. The main goal of the project is to give new answers to the challenges and questions we currently have from a social point of view, promoting projects that fundamentally benefit people at Irizar, at the same time they benefit the local society.

We want to generate social innovation based on participation and, for that purpose, a diagnosis of the current situation was done and a community listening process was started. Several activities were organised within this process, like open discussion sessions, interviews and group performances and surveys, among other things. Fundamentally people from Irizar participated in the listening process, in addition to some representatives from the government and social agents from Gipuzkoa.

Our main goal is to keep promoting **equal opportunities for people**, centring on managing:

- a. **gender** (strengthening the equality plan)
- b. **diversity** (race, nationality, religion, sexual orientation, inter-generationality, other skills, etc.)
- c. **work-life balance** and
- d. **social inclusion**.

In short, we want to strengthen our social commitment to people and, mainly, people at Irizar. We work directly and indirectly on equal opportunities to contribute to:

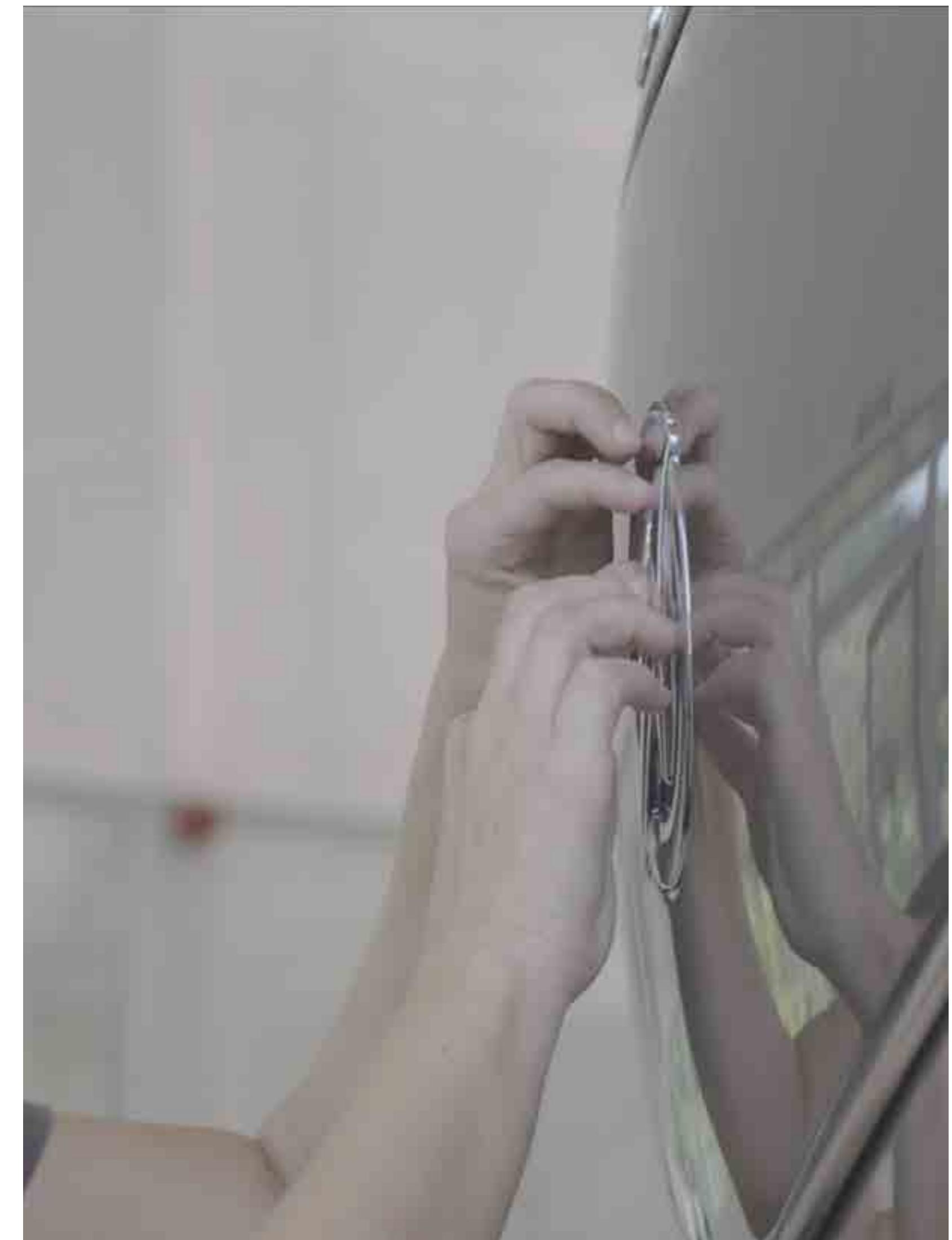
- Reinforce the sense of belonging of Irizar people
- Achieve a position as a socially innovative company
- Be attractive to talent.
- Consolidate Irizar's brand image in the social sphere
- Favour social transformation
- Achieve Corporate Sustainability
- Strengthen dialogue with stakeholders

A **multidisciplinary social innovation team** was created to boost the project where, alongside an external collaborator, people from different bodies within the cooperative and the management team participate, as well as other people from the organisation who are very sympathetic to the project. The team will be enriched by new members to meet the goals resulting from the research being done.

In 2020, a **listening process** was done using interviews (50) and questionnaires (404 answered) to collect impressions about the four pillars defined in the Social Innovation Project, which are: gender equality, work-life balance, diversity and social inclusion. The main conclusions were shared with everyone in the assembly held in December 2020, where the general lines of the project for 2021 were also shared.

The work from 2020 was used as the basis for the **diagnosis of gender equality** we did in 2021. Based on that diagnosis, and as we will see in greater detail in section 4.5, from 2021 to 2023 we made progress with improving the equality plan and harassment protocol.

The harassment protocol was communicated to everyone in the organisation through meetings specifically designated for that purpose.



4.2. Commitment to quality employment

Irizar is a cooperative corporation. The main difference between a Limited Company and a Cooperative is that in the Limited Company the capital is in the hands of the shareholders, whether or not they work in it (sovereignty of capital), while in a Cooperative sovereignty resides in the work, as the members must work in it and are self-governing using the formula 1 member = 1 vote, regardless of the capital that member has in the Cooperative.

People who start working at Irizar do so as employees with employment contracts. And after several years of evaluating their professional performance, and if the evaluations are favourable, they become worker-partners (cooperativists) and have the economic benefits of participation and employment security that that involves.



4.2.1. Job creation and evolution of workforce

We understand that economic development and job creation are fundamental in the environments where we are present and to our commitment to Sustainability, even in the greatest difficulties. For that reason, as you can see in chapter "2 Sustainable Competitiveness", **the graph showing the evolution of employment at the Irizar Group is the best evidence of our social contribution and the best indicator of our strategic commitment to Sustainable Competitiveness** (economic-governance, social and environmental), and it shows coherence with our mission. In spite the crisis and drop in sales in 2009 - 2010 the Irizar Group maintained employment. And in 2020-2021, despite the deep impact of Covid-19 on our business, the decrease in employment was not very significant. Fortunately, in 2022 our business and the employment lost in the hardest years of the pandemic started to recover.

In 2022, the increase in the production rate brought with it the hiring of people needed for it. In addition, the optimistic foresight for the future has made it so the positions retired people have left in recent years are covered that, because of the circumstances, have not been covered yet. Those hires were concentrated at the end of the year, so average employment creation was dampened.

In 2023 the production rate went back to being the same as we had before the pandemic. That meant that, on one hand, the same number of people we had before were hired. Furthermore, in the interest of responding to the new technological and geographical projects Irizar is taking on, it was decided to increase the staff. A steep increase in production in Morocco also made it necessary to hire people for temporary support there.

Workforce distribution by gender, category and age

Workforce distribution by gender and category

Job Creation

Job creation (Irizar S. Coop.)

	2017	2018	2019	2020	2021	2022	2023
People	793	828	826	815	773	783	891

Average net job creation (Irizar S. Coop.)

	2017	2018	2019	2020	2021	2022	2023
People	12	42	-2	-11	-42	10	108

	MEN			WOMEN			TOTAL WORKFORCE		
	MOI	MOD	TOTAL	MOI	MOD	TOTAL	MOI	MOD	TOTAL
2018	162	602	764	44	20	64	206	622	828
2019	166	597	763	43	20	63	209	617	826
2020	171	584	754	42	19	61	213	602	815
2021	154	563	717	38	18	56	192	581	773
2022	151	571	722	43	17	60	194	589	783
2023	157	666	823	46	22	68	203	688	891

Staff distribution by sex: in 2022, 7.66% were women, while 92.33% were men, maintaining 2021 levels. Once again in 2023, we kept the same percentage values of women in comparison with previous years.

While it is true we keep promoting gender equality in new hires, we are still having difficulties in that regard and the vast majority of job candidates are men, because of the kind of industrial qualifications sought. The problem of low ratios of women in industry has already been identified by several training centres, who we have good relationships with and with whom we are in continuous contact. We hope that the Social Innovation project, discussed at the beginning of the chapter, will contribute to improving the ratios in this area.

Distribution by professional category: in 2022, 75.2% are MOD (with advanced training), and 24.77% are MOI (mostly with engineering, administration and business management or administration degrees). In 2023 we reached 77.2% in MOD. The increase in the number of vehicles that will be produced has a direct relationship with this percentage.

Average age of workforce (Irizar S. Coop.)

	2017	2018	2019	2020	2021	2022	2023
People	38	39.27	40.45	40.22	40.56	39.92	39.56

Age distribution: In recent years there has been a significant drop in the average age, due to a significant number of recruitments and the departure of several workers of retirement age. We followed the same trend, lowering the age average a little more in comparison with the previous year.

Staff distribution by age

	Under 30	Between 30 and 39	Between 40 and 49	Over 50	Total	Average Age
2018	153	266	313	101		39.27
2019	134	258	341	93		40.22
2020	116	258	344	97		40.45
2021	81	253	340	99		40.56
2022	85	235	334	128		39.92
2023	163	247	330	151		39.56



Quality of recruitment, remuneration and salary gap

Distribution by contract type

	WORKER-PARTNERS			EMPLOYED WORKERS			TOTAL WORKFORCE		
	TEMPORARY	PERMANENT	TOTAL	TEMPORARY	PERMANENT	TOTAL	MEMBERS	EMPLOYEES	TOTAL
2019	157	569	726			100	726	100	826
2020	171	572	743			72	743	72	815
2021	141	564	705			68	705	68	773
2022	114	620	734			16	734	49	783
2023	89	644	733	19	139	158	733	158	891

In 2023, there was already a difference between the permanent and temporary contracts for employed workers (TCA), so the table changes.

As shown by our indicators, we promote hiring people at Irizar who intend to stay and want stability. We prioritise quality in hiring, such that 98% of the workers at Irizar have a permanent contract.

Some options for starting a job at Irizar:

- Via **grants and scholarships** for various university majors and the option of doing your **final university project** with us.
- In collaboration with professional training schools in the area, we give students of them the chance to do their **advanced internships** with us. These are very important for students to be able to develop the skills they have acquired and so they can get first-hand experience of how a company works.

Job **profile diagrams** are tools that enable us to carry out periodic evaluations and monitor the performance and leadership of the personnel who join the entire Irizar Group. The evaluations are done for everybody hired, by members of the teams they work on and by other people from different areas that are in direct contact with responsibilities or assignment. The evaluations let us measure people's development and progress for their **definitive integration** into the Irizar Group.

Everybody has fair working conditions that are above the local average:

1. We compensate the work of personnel with the same principles in all countries where we are present. Salaries are determined based on qualifications and responsibilities. When establishing remuneration, we are not guided by gender or place of origin, but exclusively by the work and responsibility carried out, as well as by the surrounding con-

ditions. The general our level of **remuneration is very competitive** and above the sectoral agreements of the local environment.

2. We provide **significant advantages and promotions** related with banks, communications, insurance, travel, fuel, consumption, etc. that are promoted and negotiated through the social council.
3. But what really makes the difference at Irizar is that, because it is a Co-operative Company, **the people** who work there **can become worker-partners** and after a three-year period as a regular employee they become members for a specific time. They will stay in that situation for a maximum of four years and afterwards they can become a permanent member after passing the periodic evaluations (profesiograms) that have been specified.

We are aware that having worker-partners is a differentiating factor compared with NON cooperative companies that is really attractive to people and we are committed to paying all our workers a decent wage. As we saw in chapter 2, about Irizar and Sustainable Competitiveness,

Wage gap

	INDIRECT LABOUR (MOI)			DIRECT LABOUR (MOD)			TOTAL WORKFORCE		
	MEN	WOMEN	AVERAGE MOI	MEN	WOMEN	AVERAGE MOD	MEN	WOMEN	STAFF AVERAGE
2018	104.8%	82.1%	100%	100.4%	86.0%	100%	100.4%	95.0%	100%
2019	104.0%	82.5%	100%	100.3%	91.1%	100%	100.2%	96.8%	100%
2020	104.1%	83.4%	100%	100.2%	93.7%	100%	100.1%	99.2%	100%
2021	103.0%	87.6%	100%	100.1%	96.2%	100%	99.6%	104.6%	100%
2022	103.6%	87.3%	100%	100.2%	94.0%	100%	99.7%	103.4%	100%
2023	104.0%	86.4%	100%	100.2%	95.0%	100%	99.9%	101.2%	100%

In 2023, the total average salary at Irizar for men was 99.9% over the average, while the average salary for women was 101.2% over the average. The majority of women are indirect employees (they do not work directly on the product), and because indirect salaries are above the average, it makes the average salary for women higher.

The table above shows the deviations between men and women, differentiated by professional category, between direct and indirect workers.

- A greater wage gap can be seen between men and women in indirect positions (MOI), -18% to be specific. That difference is fundamentally caused by the majority of indirect roles with higher indices being held by men.
- In parallel, there is a wage gap between men and women in direct hire roles (MOD): -6% mainly due to the fact that employees who have greater seniority are men.

We are very aware that we have a wage gap to reduce that we are evaluating for improvement with the equality plan. And, as we saw in chapter 2 about Irizar and Sustainable Competitiveness, as well as in section 4.1 of this chapter, we have designated the **reduction of the wage gap between men and women as a high-priority KPI** in our contribution and impact on the 2030 Agenda SDGs.



Rotation, entries and exits (by sex and age) and dismissals

Staff turnover rate

	2017	2018	2019	2020	2021	2022	2023
People	6	35	-2	-11 ^(*)	-8 ^(*)	99	46

^(*) Among other reasons, it is possible that the effect that Covid-19 has had on the economic performance of the company has influenced the decision by some people to leave the company.

Rotation rates are very low. The rate is always below the average of the countries in which Irizar operates. Undoubtedly this is further proof of the satisfaction and the motivation of our personnel. All this is mainly the result of:

1. Our firm commitment to developing people's capacity and talent so, with a long-term-vision, we can take on the innovation and sustainability challenges we face by creating new lines of business (electromobility, hydrogen, etc.), with the increase in demand and opening of new markets, among other things.
2. People value the quality of recruitment prioritizing permanent contracts and the possibility of becoming a worker-partner of the cooperative.

The need to fill positions in order to handle the increase in production made the number of hires very high in 2023 as well, in part due to the need to cover vacancies from 2022.

New hires by age and sex

	Under 30	Between 30 and 39	Between 40 and 49	Over 50	Total hires					
					Total	Total	Total	Men	Women	Total
2018	50	19	0	0	64	5	69			
2019	15	4	0	0	14	5	19			
2020	30	8	3	0	34	7	41			
2021	8	1	0	0	7	2	9			
2022	101	24	0	1	114	12	126			
2023	71	14	0	1	70	16	86			

Departures by sex and age

	Under 30	Between 30 and 39	Between 40 and 49	Over 50	Total departures					
					Total	Total	Total	Men	Women	Total
2018	15	8	0	11	25	9	34			
2019	8	2	2	9	16	5	21			
2020	34	10	5	25	62	12	74			
2021	2	1	9	5	16	1	17			
2022	7	11	2	7	23	4	27			
2023	14	10	7	9	27	13	40			

Dismissals by sex

	MEN	WOMEN	TOTAL DISMISSALS
2018	1	0	1
2019	1	0	1
2020 ^(*)	3	3	6
2021	0	0	0
2022	0	0	0
2023	2	0	2

(*) Given the exceptional situation in 2020 we had to terminate the annual temporary contracts of six people.

4.2.2. Organization of work and commitment to work-life balance

Since 1995, we have promoted a culture based on trusting people and **flexible schedules**. We offer a flexible schedule where the main objective is the performance and fulfilment of the established objectives and not simply presence.

Irizar personnel have different alternatives to help find a **work-life balance** in addition to flexible hours within limits, **shortened work-days, unremunerated break periods, or other kinds of leave**. This means

offering in many cases a flexibility that goes beyond what is legally established.

The pandemic contributed to promoting remote work since 2020 for all jobs where it can be done. Furthermore, given the circumstances, the continuous work day was encouraged to limit and reduce physical contact.

Work-life balance is one of the target areas of the **Social Innovation** project that is under way. As we mentioned in the first section, in 2020 a diagnosis of the current situation was done.

Among the first conclusions regarding work-life balance, it is clear that there is room for improvement: *"In some sections there are no problems with work-life balance, but in others the working days are reduced to achieve the balance"*. For this reason, we must continue to make decisive progress in the approach and the work-life balance opportunities for Irizar people.

In November 2021, after analysing the surveys and interviews, new criteria was set for arriving at and leaving work that makes a healthy work-life balance easier to achieve.

- 1.60 minutes of flexibility for starting work, which allows leaving before the end of the work day
2. The flexibility is increased to three hours if the person has or is a guardian of a child under 12.
3. Continuous work days are allowed on Fridays and days before bank holidays.
4. Employees can work remotely one day a week.

offering in many cases a flexibility that goes beyond what is legally established.

People with reduced hours

	MEN	WOMEN	TOTAL
2018	15	9	24
2019	12	9	21
2020 ^(*)	21	15	36
2021 ^(*)	15	9	24
2022	14	11	25
2023	23	12	35

(*) It is impossible to know how many reductions in working hours would not have occurred without Covid-19.

Please note the workday reductions are not for complete years, they can be for months. These are the people who have had reduced workdays at some point of the year.

Of the total of 25 workers who had a reduced workday in 2022, 14 were men and 11 were women. It was already returning to -pre-pandemic levels.

In 2022, within the Social Innovation project we kept working on studying and analysing the work-life balance measures at Irizar, as well as in other companies in the sector and leaders in the field, in order to keep making progress and become leaders in work-life balance ourselves. This study has ended, and at the 2023 assembly some measures were decided on to improve permissions of that kind.

There was a significant increase in the people who had a reduced workday at some time in 2023. The number of men who took some kind of reduction went up, especially during periods that coincided with vacations.

Work absenteeism

	Rate of missed days (TDP)	Absenteeism Rate (TAL)
2018	7.32	6.08
2019	7.10	5.72
2020	9.12	7.36
2020 without the effect of Covid-19	7.24	5.48
2020 Covid-19 effect	1.88	1.88
2021	10.03	8.03
2021 without Covid-19 effect	8.38	6.70
2021 Covid-19 effect	1.65	2.33
2022	12.20	9.76
2023	10.58	8.41

Absenteeism is reflected in the rate of days lost (number of days lost based on the total number of hours worked) and the Rate of Absenteeism (total hours of sick leave and the total hours of accident sick leave, each based on the total hours worked).

As you can see in the break-down of the indicators, without the effects of Covid-19 on sick leave we would have had an improvement in total absenteeism in 2020 and decreased a little in 2021. We kept practically the same TDP in 2020 and it went down in 2021. Both indicators increased in 2022.

With the goal of reducing them as much as possible:

A. In late 2022, **absenteeism monitoring was strengthened jointly** by People Management, the medical team and the insurance provider (Lagun-Aro).

B. As also described in detail in subsection "4.6.2. Comfort-economy programmes", in 2023, we created a **multidisciplinary team to improve ergonomics** with the participation of people in the workplace risk prevention area, physical therapy services, production, human resources and the industrial area.

C. There was practically no influence from Covid in 2023, and because of that the leaves of absence related with the illness decreased. Nevertheless, we are aware that absenteeism is high, which makes day-to-day management harder and that is why we keep working on activities to reduce it.

4.2.3. Participation in the management and economic results

Participation in economic profits

In addition to cooperative members participating in the economic results of Irizar S. Coop., in all the companies in the Irizar Group, regardless of their legal name, all workers participate in management and economic results.

Participation in management

The participation of everybody at Irizar in management and decision making is constant, through self-managed multi-purpose teams to tackle both strategy and day-to-day operations of the management processes they are involved in.

Participation in Strategic Thoughts

All personnel participate in the strategic analyses conducted periodically at Irizar, as well as in the annual assemblies, where strategy is the most important aspect. The **strategic thoughts** are reviewed every three or four years (depending on aspects of the economic and social environment, the sector, market and competitors, technological evolution in mobility and digitisation, as well as the other internal and external stakeholders), and they are created and shared with everybody in the organisation.

The process of this analysis includes different working meetings where personnel from the management team, the Governing Council and direct and indirect personnel participate in the initial phase. And the playbook up to now includes covering aspects of external debate that influence Irizar's activities, such as the macroeconomic situation and an analysis of the sector, market and competition.

Beyond the ideas of this first analysis, a series of reflections are carried out about Irizar's internal situation as well as the SWOT (Strengths, Weaknesses, Opportunities and Threats) in order to arrive at general conclusions which, in turn, are transferred to all Irizar personnel, who have the opportunity to participate in the process by taking in suggestions and proposals which will subsequently result in actions to improve the competitive position.

We started holding meetings led by the new CEO in 2022 with the motto to "**Building the Irizar of today and tomorrow**", among various work areas, to think about the situation the organisation is in. At those meetings, it was once again clear that sustainability has a fundamental role, in accordance with our future strategic lines and commitment to searching for sustainable mobility. More details about the meetings can be seen in subsection "4.3.2. Communication and transparency".

The entire integration of sustainability into our strategy and operations is handled in more detail in chapter 2 about our Sustainable Competitiveness.



4.2.4. Employment promotion

New hires

We establish cooperative relationships and maintain permanent contact with vocational training centres and universities in our local environments to facilitate access to employment for young people and to incorporate the best talent.

We establish cooperation relationships and we are in contact with the Universities in Basque Country (UPV, MU, Deusto, Tecnum, etc.) through their different Employment Forums. And we collaborate on the training and incorporation of students in the job market and teaching conferences and classes in advanced Master Degrees in accordance with the university curriculum. All this enables us, on the one hand, to attract the talent of young university students to our organisation, and, on the other, to transfer the characteristics of the profiles of our organisation to universities.

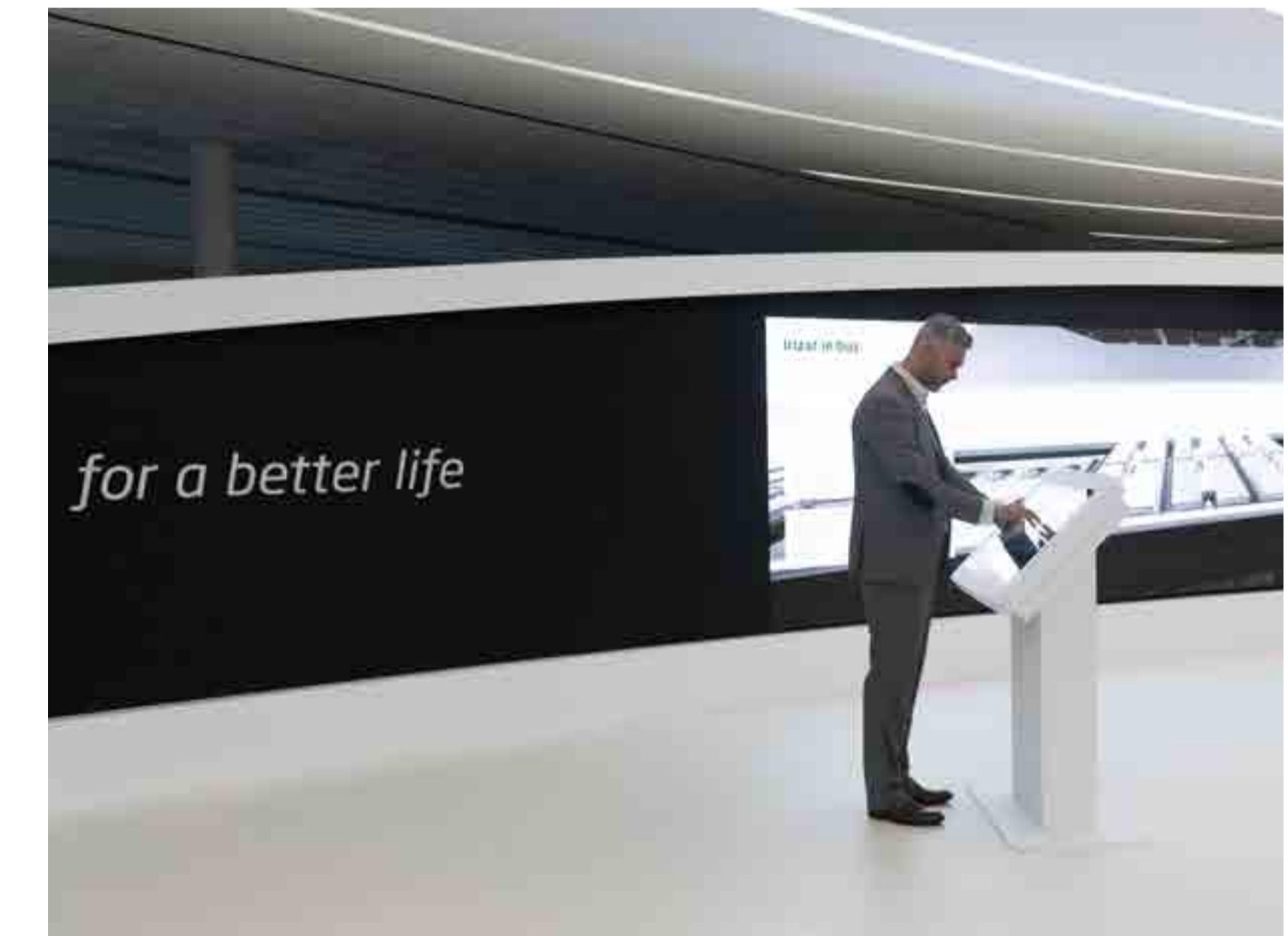
The work done in 2022 and prior to the pandemic to continue with the initiatives already discussed in detail in the point about Quality in hiring, was continued in 2023:

- Scholarships for different university programs.
- Option to carry out the final project.
- Possibility of internships for advanced training cycles.

Internal promotions

Whenever we think it is possible, at Irizar S. Coop. we open internal promotion processes to cover positions with higher responsibility or a different work area, letting the person increase their transversal vision of the company. These are systematic and rigorous processes with a similar or greater level than the processes for new hires.

In 2023, eighteen people were promoted to cover organisational needs created by needing to handle new business challenges.



4.3. Commitment to quality employment

4.3.1. Leadership and teamwork

Starting from the CEO and the rest of the Executive Team and reaching all levels of management, it is VITAL to promote and display a commitment to all People based on trust, communication, leadership, involvement, self-management and teamwork. This priority of our management model is basic for the motivation of people.

Leadership makes it possible to create self-managed team work environments with people committed to the values, clients, strategy and excellence in management at Irizar. Leadership and teamwork are key to our future Sustainable Competitiveness.

4.3.2. Communication and transparency

Communication and transparency are the cornerstones to ensure information and knowledge about the corporate strategy, the projects, ob-



jectives and the monitoring of the daily activity, flows and is shared by all. We make the most important events, advances and achievements of the company public (economic-governance, social, and environmental), as well as the evolution of the sector and economic and socio-cultural activities.

But fundamentally, we believe that internal communication is the way to strengthen our corporate ethics and culture, and generate integration, satisfaction, motivation, and involvement of all personnel. This communication model makes it easier for us to have personnel who are increasingly committed to Sustainable Competitiveness, while having them share in the actions and decisions that affect them.

The structure and communication channels that contribute to guaranteeing the flow of information to/from everybody, are active and subject to constant review, both in the operation of business processes and for strategic reflections (as detailed in the "Participation in Strategic Thoughts" section), taking into account the opinion of all representatives of the work teams that represent Irizar personnel, both directly and indirectly.

The **continuous two-way communication** dynamics are part of our management model based on **self-managed multifunctional teams** to address both Irizar's strategy and daily operations.

Additionally, we have **complementary internal communication channels**, including:

Forums at the highest level where all personnel participate.

These are the main mechanisms for communication, carried out directly by the CEO and the Executive Team and where the most relevant information is posted for all Irizar personnel. The following is carried out annually:

- Two **Assemblies** where purely strategic issues and annual action plans and legal issues related with the cooperative are discussed. These assemblies are open to all the personnel of Irizar S.Coop., although only worker-partners are able to vote. As we saw in the chapter about "Sustainable Competitiveness", in the assemblies we always discuss **Sustainability** within the global strategy and progress of the company. For example:
 - **Sustainability** is an essential key competitiveness factor of the Irizar Group
 - The new version of the **code of ethics** was presented in 2020 for **approval** by all the members.
 - In 2020, the **sustainable development goals (SDGs)** of the 2030 Agenda that we have chosen at Irizar as **high Priority and Transversal** for increasing our future commitment to them in a strategic and operational way were presented.
 - Since 2020 **Sustainability has been set forth as the axis** around which the rest of Irizar's strategies revolve, especially for **sustainable mobility**.

• Meetings of the Customer Line Team (ELC) that we have held for decades. A quarterly review of daily activities in reference to the annual goals, presented by members of the Management Team and other managers from different teams and operational areas, was done at the meetings. The CEO used the opportunity to spend time with everyone in the organisation and give them the chance to channel and express the concerns and issues that affect them as workers. All dissatisfactions, suggestions or proposals are collected so they can be analysed and action can be taken to resolve them.

Even more if possible, the pandemic made the importance of communication and transparency in organisations more evident. That situation did not prevent Irizar from holding several ELC meetings in 2020 and 2021 where new decisions made and the market and company situation were explained in detail.

- Those meetings, as we pointed out in section 4.2.3., have been renamed since November 2022, and are now called "**Building the Irizar of today and tomorrow**", with the goal of leading the re-dynamisation of the organisation to catalyse the development of the brand, technology and sustainability. They are led by the CEO and other members of the Management Team participate actively, DRIVING the re-motivation of the organisation to bring about an improvement in the organisation's performance and capabilities to take on new challenges (taking sustainability into account as well as technological evolutions in mobility and digitalisation), that are going to bring about very large technological changes in products, services and the way of working.

Social Council, Regulation of Internal Arrangements and Collective Agreement

- The **Social Council** is the **internal representative body of the worker-partners** for the issues that affect the employment relationship. Its functions are:
 - a. To inform, advise and consult the Governing Council in matters that affect the employment relationship
 - b. To inform its representatives and collect contributions and opinions from them, on job roles and issues
 - c. To record in the minutes issues relating to daily activity and the monthly economic position, but also decisions made at the Governing Council meetings, issues related to Health and Safety, the environment and social issues
 - d. Make the **minutes of the social council meetings** available to all workers by publishing them and sending them by email to all workers every month.

In addition, at Irizar **we extend the dynamics of the Social Council to temporary (non-partner) employees** to both receive their contributions and consultation and to make the minutes available online.

- Questions concerning the labour arrangements of worker-partners are regulated in the **Regulation of Internal Arrangements**. Irizar makes **extends those labour arrangements to non-member employees** in regards to:
 - Labour organization

- Work schedule (working hours, calendars, overtime, shifts, bank holidays, vacations, leaves of absence, etc.)
- Professional classification (professional development, internal promotions, training, etc.)
- As we mentioned above, in the daily dynamics with the workers with employment contracts, the same criteria are followed as with members, even though, administratively, they are subject to the **national metal worker collective bargaining agreement**.

Other communication channels

- **Daily meetings of every ELC** (client line team): They were reactivated in 2022, after the stop caused by Covid-19, with the goal of resolving incidents in each production line. Led by the Client Line coordinator, they bring together a multidisciplinary group with representatives from production, quality, engineering, supplies and direct employees (MOD), from all areas of the line (framework, body, painting, finishes and electricity).
- **TV screens**: installed in all break areas are used to complement and provide better news coverage and general information about industry news, economics, photography and videos about Irizar and people from it and their achievements, sustainability culture and strategy or visits to our facilities (by clients, institutions or the media), as well as collaborations and aid for culture, sports or NGOs, etc.
- **Information centres and electronic panels** There are communication centres and electronic panels at access points and generally visible in the facilities that show issues relating to quality, internal communication, plant images, health and safety, sustainability and the environment.

- **Irinet**, or Irizar's Intranet, is a tool for compiling and centralizing all the information posted at Irizar. It also provides services that go beyond the daily management, including cultural activities and dictionaries.
- **Direct emails**: Using direct emails lets us make all relevant information available to the entire collective. It is a tool that is growing in use. More and more information is being sent through this channel.
- **Social Council WhatsApp**: Additionally, and prior to sending the minutes of the meetings of the Social Council, in 2021 we started sending summarised notifications of the main issues discussed by the Social Council to all Irizar workers, both partners and regular employees.

The impossibility of using the usual communication tools in rest areas in 2020 and 2021 led to the search for new internal communication formulas with the aim of improving direct relationships with people and their integration. In addition to the meetings by video call and telephone, the relevant information was displayed through more direct channels with everyone individually. In 2022, especially with the return of the daily ELC meetings, we returned to pre-Covid normality.



4.4. Strengthening talent: Education and training

In order to take on our ambitious strategic goals in terms of Brand, Technology and Sustainability, we are aware that we must provide a response to: higher and higher technical-technological demands, the growing complexity of our business and our entire value chain (commercial, design and development, product and services execution), weaving alliances and working in collaboration with all our stakeholders.

The growing need to adapt to changes and new challenges, like staying ahead of the future, demands more and more training that is more specialised. Along those lines, Irizar constantly works to promote **high-quality education to empower talent**.

Innovation is part of our DNA and organisational culture. We want to expand the limits of knowledge, discover new ways of making products and providing services that are truly different, and stay one step ahead and respond to the training needs that arise in our strategic reviews (annual and medium/long term), and to the ideas and suggestions of our stakeholders:

We started **multidisciplinary training plans** suitable for people who are eager to improve their qualifications, their background and the breadth of their skillset, and we see all that as benefiting an increase in knowledge of the quality of our products and services and improving our Sustainable Competitiveness.

Most of this training is done internally, and we can highlight the following:

- **The welcome plan for new hires** that includes training-education sessions to smooth their integration into the company, knowledge of the culture and strategy of Irizar, the integrated quality and environmental systems, workplace health and safety, and other policies and internal rules.
- **Training in versatility of direct personnel.** This entails increasing theoretical and practical knowledge to handle working in other positions. And it facilitates being able to respond to the personal preferences of every worker, take on new market demands and improve the quality of our products and services, as well as to be able to act preventively in terms of ergonomics, and improve posture changes and other measures that help improve health and safety.
- **The continuous flow of people between production plants** in different countries and companies in the Irizar Group to support, drive and take advantage of the synergies between activities and actions that are done within the strategic lines and work set forth with the fundamental goal of increasing their knowledge and skills, in addition to doing constant training in the innovative issues and solutions that are incorporated into products and services, management, image, sustainability and implementing technology. Thus in 2020 and 2021, because of the tight restrictions on international travel, moving people between plants was not possible. In 2022 some exchanges of people could be done. In 2023, the movement of people between plants working in the Group and facilitating synergies increased.
- **There was constant training and qualifications** in critical manufacturing processes (welding, gluing and painting), for direct staff with the collaboration of our integrated suppliers or specialised external companies.
- In 2021, we could highlight the training received by everybody in

workplace risk prevention issues. Many hours were invested in general issues, like role specifications, including the **decalogue for handling Covid-19**.

The internal training plans were complemented with continuous training programmes done by external professionals. The intensity and content of the training has more variation, and it is more closely linked to changes in strategic focus, new lines of products and services we are undertaking or new markets, etc. Their qualitative evolution is shown on the table below.



External training

	2017	2018	2019	2020 ^(*)	2021	2022	2023
Hours dedicated to training	4119	3122	3066	1075	12110	1114	1075
No. of people	236	135	161	143	999	479	239

^(*)The standard external in-person training in 2020 was restricted. Only one quarter could be done.

In 2022 and 2023, the **voluntary training** can be highlighted. It was given with a broad focus in both cases, but it was adapted to the different needs and concerns of direct (MOD) and indirect (MOI) employees.

a. Training for direct employees in management that merges concepts about quality, conflict management, team management and leadership, communication, IT and IRIZAR product-processes and new trends in mobility. It was a four-month course given by Goierri Eskola, except the last concept, which was developed internally. It was very well received by the participants.

b. Training for indirect employees with the **specialisation course in cooperative business management**. It was organised by the Mondragon Unibertsitatea business school and KONFEKOOP (Confederation of Cooperatives of the Basque Country). In four months it included five personalised modules for managing cooperatives, in which participants learned about:

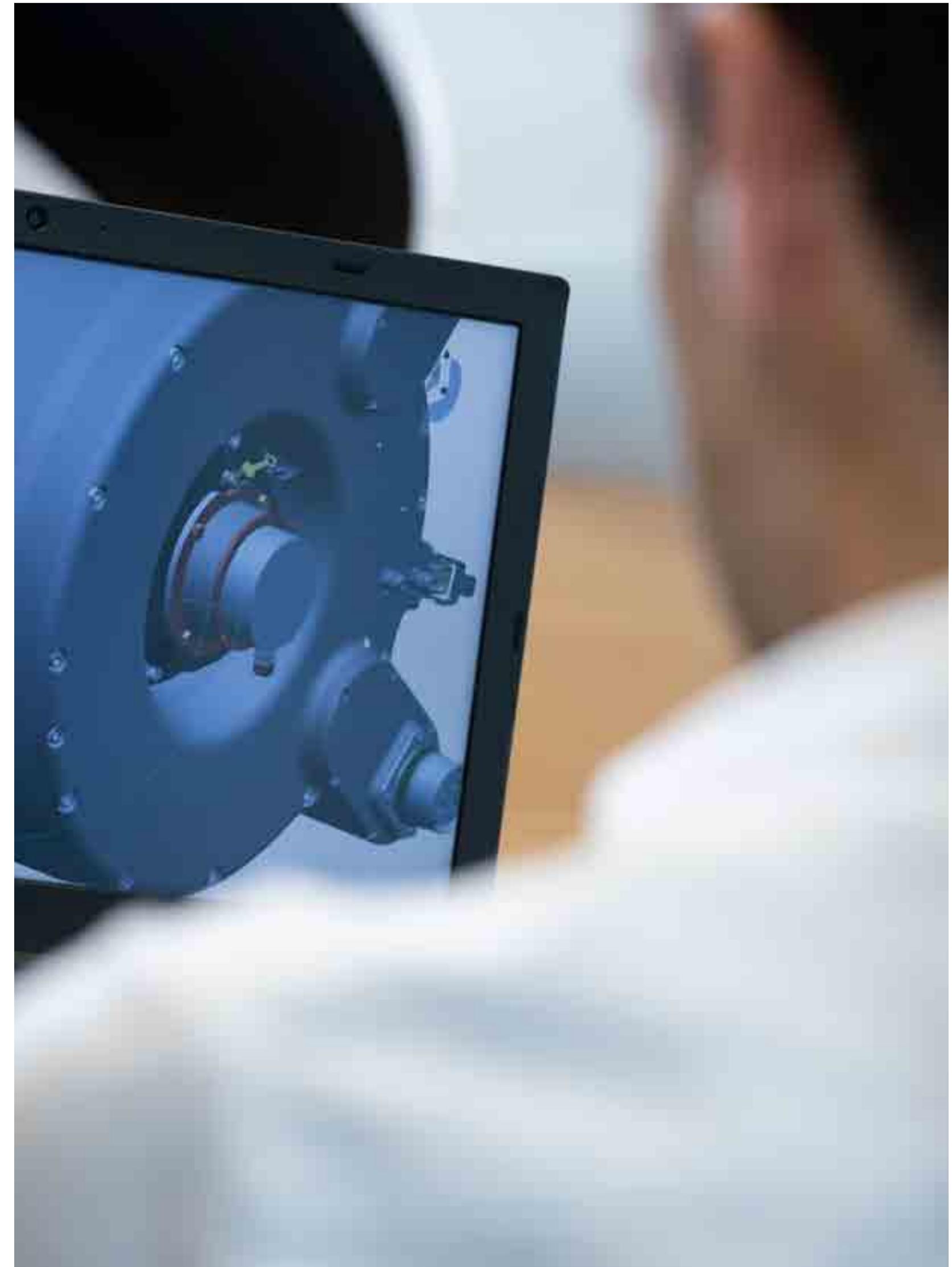
1. Economic-financial management
2. Strategic Management
3. Marketing
4. Management skills for cooperation
5. Applied final project

This course still has practical continuity at Irizar. Because several work groups have emerged out of the people who received training that

are working on improving specific aspects of management at Irizar, like digitising production management tools, analysing the viability of implementing a CRM (Customer Relationship Management) system, etc.

We have also continued with training in sustainability:

- **Online**, given by the United Nations Global Compact and other bodies (2030 Agenda and SDGs, ethics and good governance, supply chain and human rights, ESG trends, climate change, etc.).
- In 2021, representatives of Irizar were trained within the **SDG Ambition accelerator programme of the United Nations Global Compact**, which more than 700 companies participated in internationally. It is a pioneering programme with a new methodology that helps us set ambitious SDGs (sustainable development goals) and integrate them into the centre of our strategy and operations to contribute to the prosperity of people and the planet.
- From January to September 2023, and with backing from upper management, People Management and the Irizar Sustainable Competitiveness Manager participated in the **Business & Human Rights Accelerator learning programme by the United Nations Global Compact**, that was designed to give companies the tools and knowledge they need to create a continuous due diligence process for



human rights and guarantee that human rights are respected. That training facilitates our progress with our commitment to and practices regarding human rights, to prevent risks and avoid injury to people.

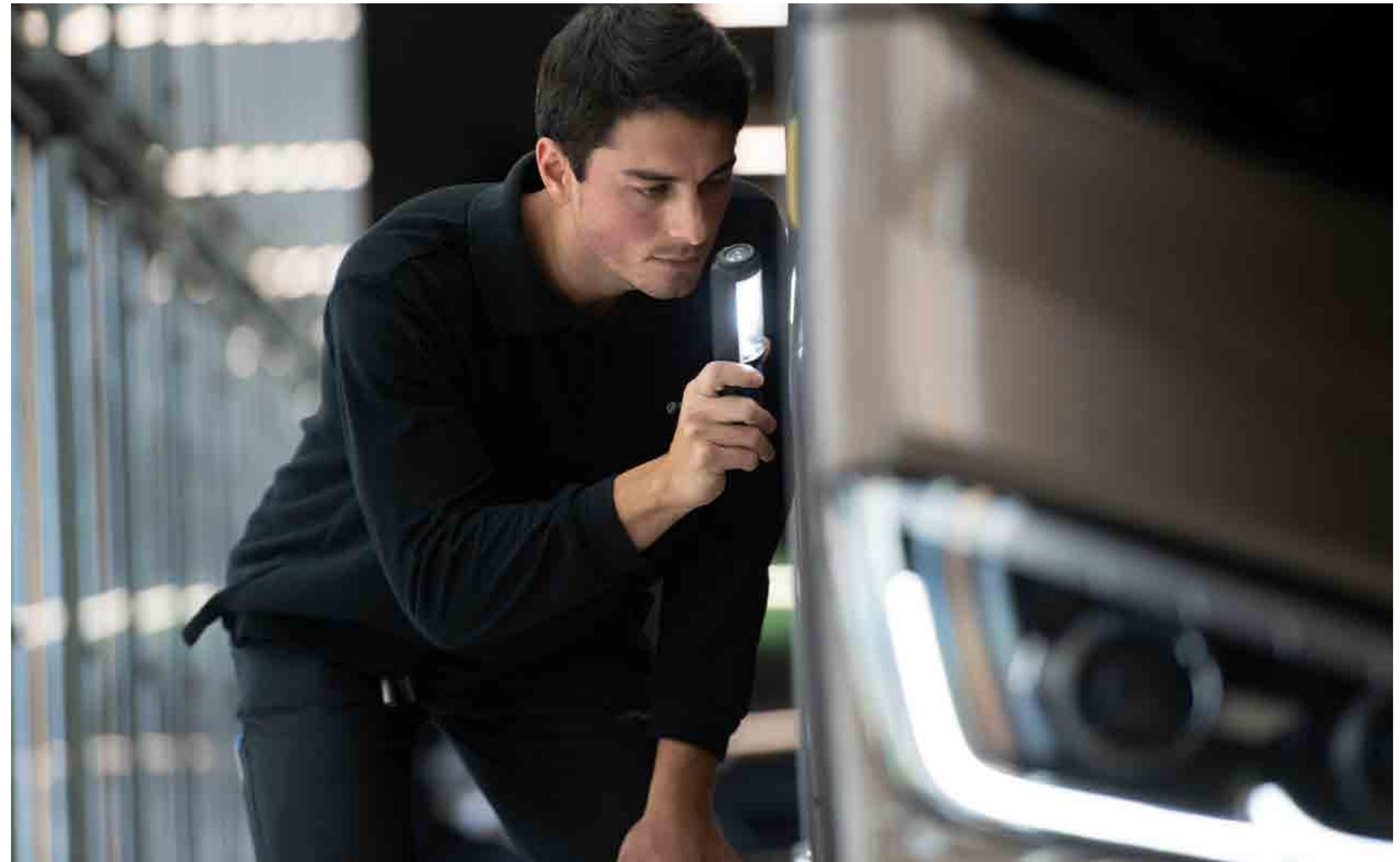
- In 2021 and 2023, we **trained the Management Team and President of the Governing Council in Sustainability and SDGs/2030 Agenda**. Every manager will keep involving people in their area of the next level of responsibility in the organisation. Commitment and involvement by the top managers at Irizar is important for reaching the future goals that have been set.

Beyond professional training, we do **awareness raising and training initiatives in sustainability**. Among the awareness raising courses and campaigns in 2023, we continued with dynamics from 2021 and 2022, highlighting:

- International Women's Day
- International Day for the **Elimination of Violence against Women**
- The **SDG Speaker campaign** to raise awareness about the issue among our stakeholder groups

2023 was, without a doubt, a year of opportunities. As in previous years, we continued reinforcing training, versatility, communication and flexibility for clients or the ability to adapt to change.

As we saw in chapter 2, about Irizar and Sustainable Competitiveness, and in section 4.1. of this chapter, as part of our contribution and impact on the 2030 Agenda SDGs, we have designated three **high priority KPIs in training/awareness raising for people at Irizar in terms of ethics and compliance, gender equality and Sustainability**.



4.5. Gender equality, diversity and social inclusion

Respect for diversity, gender equality, non-discrimination in employment, dialogue, professional development and knowledge sharing are our priorities, which is reflected in our Statutes and our Strategic Thoughts.

Insofar as diversity, our **statutes** state:

"The following will not be reasons for denying admission: political, trade union or religious ideologies, (as well as the race, language, sex or marital status of the candidate) unless these are explicitly opposed to cooperative principles and organisation and to the goals, commitments, values, and principles of Irizar. S. Coop."

Our **selection** processes are non-discriminatory in terms of sex, age, race, nationality, religion, disability, sexual orientation, union or political affiliation.

We do not tolerate discrimination in **employment** for any reason: All personnel hired at Irizar are covered by the same conditions, including salaries, as long as they are filling positions with the same level of responsibility. That principle is stated in the statutes of the cooperative and the Strategic Thoughts.

As we stated at the beginning of the chapter, in 2019 we started the **Social Innovation Project** for Equal Opportunities for people, focusing,

among other areas, on managing: **gender** (reinforcing the Equality Plan), **diversity** (Race, Nationality, Religion, Sexual Orientation, etc.) and **social inclusion**. Among the conclusions of the diagnosis (addressed in the first section of this chapter) the following are of note:

- **Gender:** *"there is a limited presence of women in general and that is reflected in the management bodies of the cooperative"*
- **Diversity:** *"there is no discrimination against LGBTI people or people with different socio-cultural backgrounds. But there are comments."*
- **Social inclusion:** *"People with functional diversity can carry out their jobs without problems, but their presence is limited at Irizar."*

As already mentioned, the goal of the project is to continue making decisive progress in improving these aspects.

4.5.1. Gender equality

In 2021 and 2023, work was continued on updating the gender equality plan.

- Because it is high priority, **work was done on the protocols against sexual harassment** and gender harassment in the workplace. It was approved by the top management of the organisation in 2022 and it was put into action by doing diverse specific training for people involved in the project so they can act as mediators for any need in that regard.
- **The improved equality plan** It was approved by the top management of the organisation and the main ideas planned in the general assembly in late 2022 were presented to the entire collective.

In 2023, we kept promoting training in gender equality in the entire collective of people at Irizar, including the new Equality Plan and Harassment Protocol. The existence and functioning of the protocol for sexual and gender harassment in the workplace was presented to all the workers at Irizar. The harassment protocol has been part of the Welcoming Plan for all new hires since 2023.

Likewise, we keep cooperating with training Centres in the local environment to promote and facilitate increased incorporation of University and Upper Training Cycle students into company internships. As our strategic thoughts and statutes show, age is not a restriction for hiring people at Irizar.

We are very aware that we have a wage gap to reduce that we are evaluating for improvement with the equality plan. And, as we saw in chapter 2 about Irizar and Sustainable Competitiveness, as well as in section 4.1 of this chapter, we have defined three **high-priority KPIs related with gender equality** in our contribution and impact of the 2030 Agenda SDGs:

17. Increase gender diversity, especially in senior roles and new hires
18. Reduce the wage gap between men and women
19. Train/raise awareness of people about gender equality



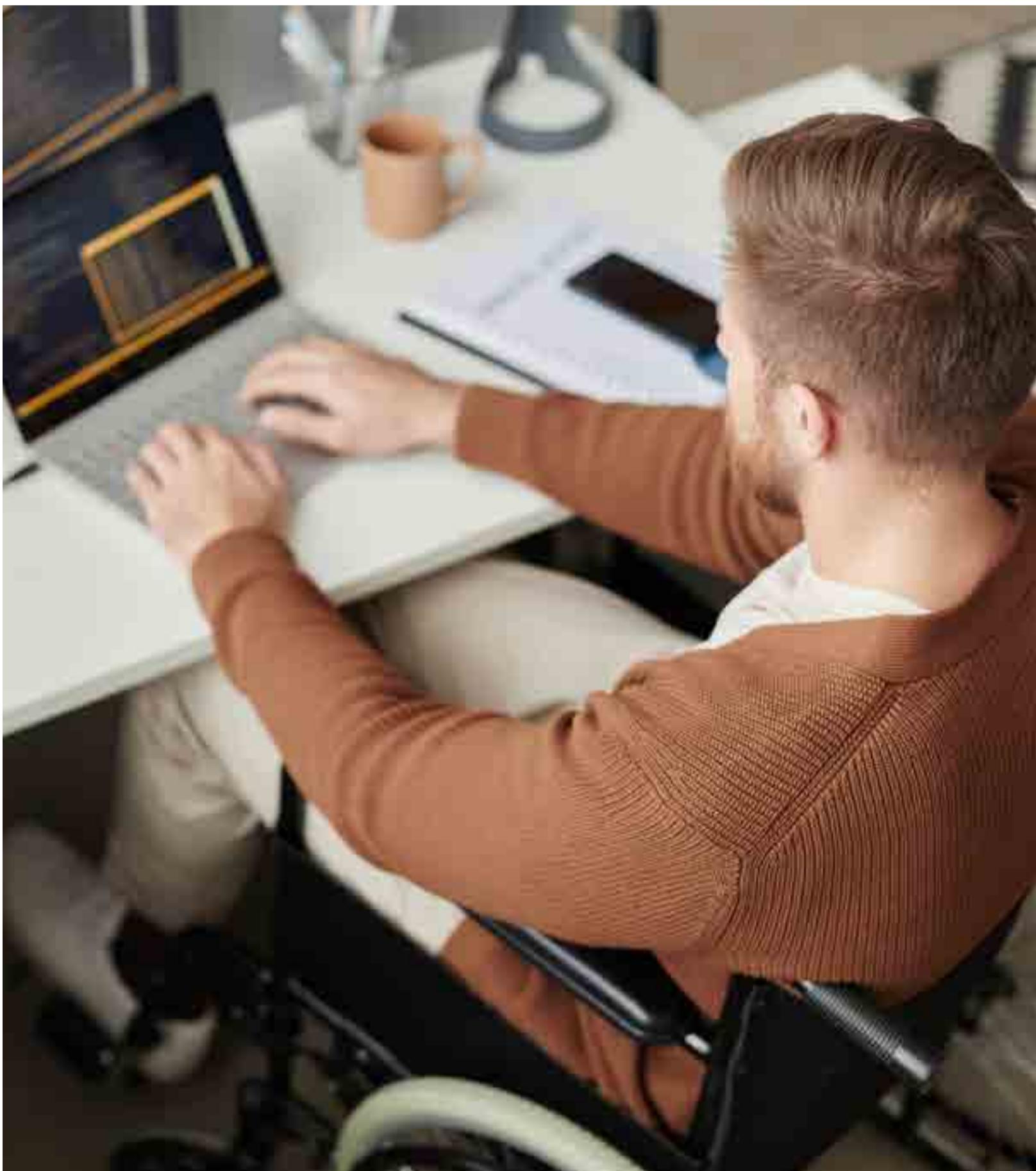
4.5.2. Diversity and social inclusion

As an **international group**, **diversity is part of our culture** and we understand that it is an enriching value. It enables greater knowledge of the needs and desires of our stakeholders around the world to consequently adapt our products and services to their needs.

- We have personnel from our team assigned to the different production plants around the world, who interact with the Irizar Group headquarters, with closer proximity to international customers. In this way, we have strengthened the Irizar brand worldwide and make foreign projects more competitive.
- In addition to the constant flow of group personnel between bus production plants in different countries for training and to benefit from synergies, as already discussed in the section titled "Reinforcing talent: education and training", we try to benefit from synergies that arise through the experience of Irizar and the possibilities its presence in international markets with production plants presents to carry out implementations in the rest of the companies in the group in the countries where it is present. Hispacold and Masats emerged in that way, as did the ones developed by Jema in Brazil, Mexico and the USA.

All our facilities are equipped to facilitate **accessibility of people with disabilities**. Disability is another area that is not subject to any type of discrimination.

In a complementary way, our approach is to work with external collaborators who host or hire people with disabilities (as we saw in the corresponding chapter).



4.6. Health and Safety

This last section of the chapter, on responsibility to our personnel, is undoubtedly very important.

In terms of hygiene and ergonomic-comfort measures, at Irizar, we are at maximum levels, above the legal requirements and other co-operatives and companies in the local sector.

In 2023, we continued making serious efforts to guarantee that people in the Group have the best working conditions. We always have the clear goal of surpassing the minimums set by legal requirements and give people in the Group the PPE they need for protection, health and safety.

4.6.1. Occupational Hazard Prevention System

The Irizar S. Coop. occupational risk prevention system (the same as in other companies in the Irizar Group) prioritises people's safety before anything else and they dedicate the resources needed for it. It includes all measures for the prevention of accidents and illnesses related to daily work. Our basic accident prevention tool is a risk assessment of jobs and work processes.

The **strategic importance of safety and health for Irizar** is demonstrated by:

- it being given a high priority in all the **Assemblies**. Data are provided both on the indicators and on the actions and investments made in the year to improve health.
- The dynamics, established for more than 25 years, of monitoring by the **Health and Safety Committee** of all accidents, incidents, audit results (internal and external), inspections carried out continuously and periodically (safety and health, industrial safety of all facilities), and improvement proposals that affect health.
 - The Committee, led by the Health and Safety manager (who reports to the Management Team), does integral management of those sections monthly.
 - The members of the Committee include:
 - * The CEO, People Manager, Industrial Manager, Production Manager
 - * the President of the Governing Council,
 - * the Risk Prevention Delegates who are member of the Social Council, and
 - * other members from different areas related with the issue of health and safety.
 - The committee is open to any person at Irizar who can transmit the message they wish to the delegate for their area or any member of the committee.
 - Their goal is to ensure that all the guidelines are followed, in addition to the legal requirements in terms of workplace health and safety, doing monitoring of the results of those issues.
- **Inspections** are done periodically Internal **audits** are also done continuously

- **100% of the injuries, accidents and incidents were analysed.** Within this framework, actions have been initiated, and the necessary investments were also made in 2023 **and safety has been improved**. In particular, risks that may involve serious consequences have been reduced.

The Irizar prevention service is included in the joint OSARTEN service, in which Irizar has included preventive activities in the specialities of safety, hygiene, ergonomics and psycho-sociology, while the external prevention service is managed with Quirón Prevención, in the speciality of preventive medicine.

The Health and Safety Team provides personnel **with essential safety plans, instructions, and procedures** focused on prevention and continuous improvement. These guidelines emphasise the obligation to act responsibly and likewise underline the fact that each person must actively participate in the measures. Personnel may access this information through various means, including computers available in all production areas.

Initiatives are also carried out to raise awareness among personnel regarding existing risks, with emphasis on the culture of work safety, training, workshops, communication campaigns, etc.

Irizar e-mobility also demonstrates its commitment to the health and safety of people along the same lines, and in 2020 they obtained **ISO45001: 2018 certification**. At Irizar S. Coop. we expect to also get certified in the future.

Frequency and severity rate

Frequency rate

(number of accidents per hours worked)

2017	2018	2019	2020	2021	2022	2023
61.04	60.75	48.33	33.59	50.22	50.57	56.95

Severity index

(number of days not worked due to accidents at work based on the effective number of hours worked)

2017	2018	2019	2020	2021	2022	2023
1.24	1.08	1.00	1.75	1.09	1.04	1.25

The frequency rate (number of accidents per hours worked) stayed the same in regards to 2021.

The severity index (result of the number of ours lost for every thousand hours worked) has dropped to values more in line with values from the years prior to the pandemic. The sick leave times were shorter.

Incident rate and accidents at work with sick leave

Incident rates

(number of accidents per number of employees)

2017	2018	2019	2020	2021	2022	2023
89.33	97.99	76.78	49.08 ^(*)	81.83	81.76	85.98

Accidents with missed work

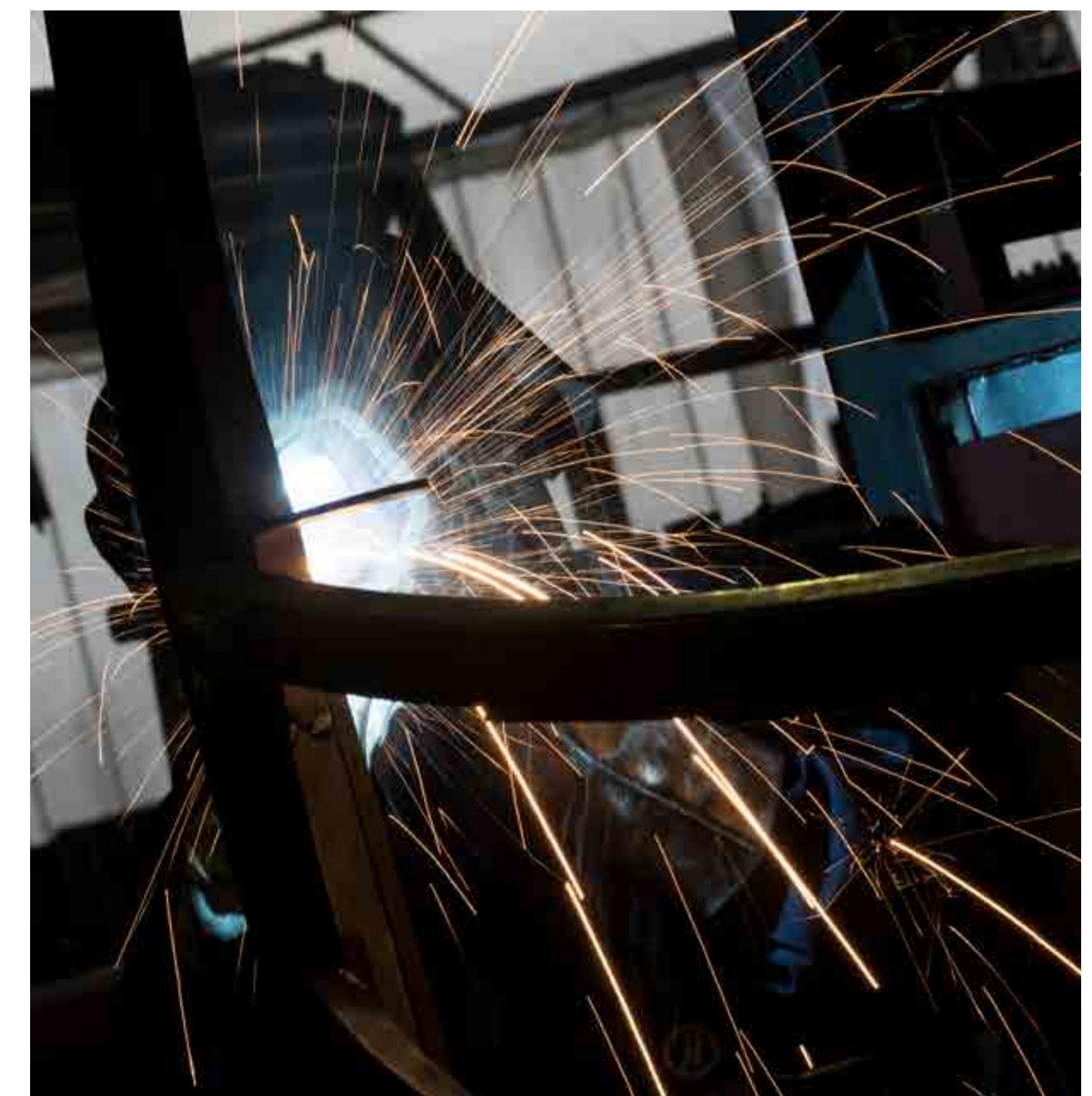
	2017	2018	2019	2020	2021	2022	2023
Average Workers	791	836	826	815	789	893	937
TOTAL Accidents with Sick Leave	77	82	64	40 ^(*)	64	66	87
Absences for accidents MEN			61	39 ^(*)	61	62	83
Absences for accidents WOMEN			3	1 ^(*)	3	4	4

In 2023, the same as in 2022, fundamentally as a consequence of working more hours than in 2021, both the incident rate (number of accidents per number of employees) and accidents with sick leave increased in comparison with 2021.

After the exhaustive analysis we did in 2018, in which we identified an increase in the number of accidents among new hires in comparison with the previous year, a need for a **2019-20 Health and Safety Training Plan** was created for all new hires. It is a training plan based in the metal agreement, which we started to plan in 2019 and was carried out in 2020 and 2021. It is not just for new hires, but it has been extended to all workers (temporary and members). During 2021, 80% of people did the training from the metal agreement about Preventing risks in the workplace.

We reassessed the format of the training in 2022 and 2023. And in 2025 we will continue with the new focus. It is our intention that, with this change, the more than evident involvement of everybody who has shown it up to now will continue. Starting in 2025, we will start with periodic training in recycling from the metal agreement.

We believe we have to provide a safer and more healthy workplace. To those ends, as you can see in chapter 2 about Irizar and Sustainable Competitiveness, and in section 4.1. of this chapter, we have made it a **high-priority KPI to provide a safe and healthy environment (reducing the accident frequency and incident rates)** in our contribution and impact on the 2030 Agenda SDGs.



4.6.2. Ergonomics-Comfort Programs

Ergonomics of people is an unbreakable dogma when it comes to applying any innovations to products or production processes, and its high-priority goal is to adapt work areas to people. It is our responsibility to start working on these aspects during the conceptual stage. Irizar is a leader in ergonomics and comfort: We invest what is necessary in this field in order to prevent possible injuries. To those ends, we have spent years focusing efforts on providing maximum ergonomics to all jobs with solutions, in many cases, designed and developed with the participation of the employees themselves.

The Irizar ergonomics program includes job rotations as a preventive measure, as required (physical disabilities, weakened health, ageing, etc.). We carry out continuous evaluations and job improvements that have resulted in investments in the implementation of different measures (weightless tools, handling trucks, external manufacturing, etc.) to reduce the handling of loads and repetitive movements. In the last few years, the investments have been aimed at thermal comfort in the entire company.

Regular activities and measures taken in recent years

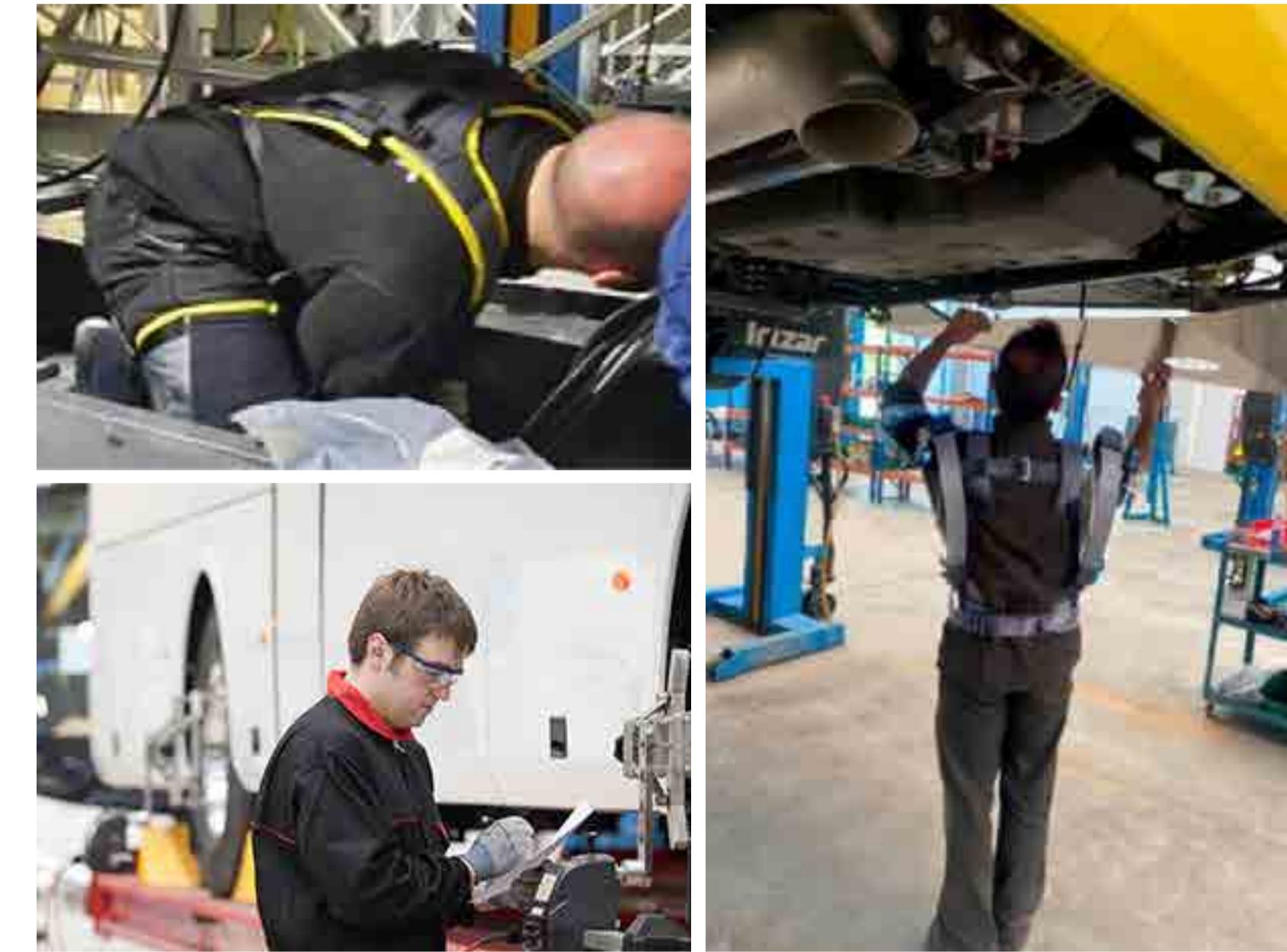
Below, we will describe a summary of the measures taken in recent years: Most of them were designed specifically with the participation of people from Irizar, with the goal of providing optimum conditions regarding ergonomics and workplace health.

Occupational Risk Prevention Management

- Start of the multi-year development project of the new OHP management programme and transfer of data from the current system to the new one.
- Application of corrective maintenance in the Intranet-iWeb.
- New project for registration and grouping of all climate control equipment in the existing industry files.

Ergonomics:

- Work platforms for sheet metal roof shapers.
- Turners for manufacturing roofs and roof duct handlers.
- Installation of lifts and adaptation of their regulation systems for postural improvement in structural welding and safety improvements.
- Aluminium shapers to reduce weight.
- Manual handlers for processes involving loads in sheet metal and assembly areas.
- Handling of front and side windows with weightless systems.
- Lifting systems using vehicle columns for ergonomic improvements.
- Handler for installation of seats inside vehicles.
- We have recently acquired several **exoskeletons** with the goal of including them into our production process in the plant where the final assembly of the integral coaches takes place: Ekso, Noonee and HeroWear. This latest generation technology helps reduce the physical demands for people and contributes to preventing injuries and ergonomic risks from work.
- Work on the Omer lift to widen the gap between platforms for better accessibility.



Hygiene:

- Investments in the manufacturing and roof assembly area aimed at thermal comfort by installing evaporative coolers.
- Storage of all APQ10 chemicals.
- Substitution of critical chemicals with non-hazardous chemicals.
- Implementation of motorised breathing equipment for all painting and framing processes with maximum protection.
- Push and pull suction equipment in critical areas with suspended suc-

tion equipment for work on vehicles.

- Heavy-duty suction equipment for sanding tasks.
- Automation improvements in cabins to minimise hygienic exposure.
- Status control for filters by automatic notification (4.0).
- Localised suction for jobs with dust exposure.
- New air conditioning control system in the production plant and offices on the ground floor.
- Plant evaporators in the sheet metal area.
- Nederman suction plate installation improvements.
- Automation of paint booths to optimize resources: SAT, Parts Cabin and all structure painting booths.
- Facilities to improve thermal comfort with evaporating plates.
- Control substitution and improvements in the suction of the reinforcement area in the plant.

Security:

- Installation of collective protections for cabin maintenance.
- Adaptation of facilities to new regulations and subsequent industry review of fire protection measures.
- Fire-fighting equipment (sprinklers) cabin painted structure finished. Warehouse for chemical products, glues and paint.
- Paint booth lifting platforms Place a chain entrapment detector at the outlet of the reducer.
- Improvements in the acoustic signalling of fire protection equipment.

Facilities:

The facilities have also undergone significant improvements to reach the highest levels of ergonomics, thermal comfort, hygiene and health of personnel:

- All facilities have been air-conditioned for all jobs, with improvements to prevent currents in certain work areas for optimum temperatures and working conditions for Irizar personnel in both winter and summer.
- The lighting system has been replaced with adjustable LED technology with the aim of increasing the lumens in work areas.
- It has been equipped with general suction systems to improve environmental hygiene in work areas.
- Installation of glue booths for all work with exposure to glue.
- Improvements to hygiene conditions in the painting section by providing all workers with protective equipment that reduces exposure to chemical agents to inappreciable levels.
- Purchase and installation of defibrillators in all areas and facilities of the Irizar headquarters.

Clothing and equipment:

All clothing and equipment used is compliant with the specific UNE Regulations. People participate directly in the selection and improvement of the clothing and PPE. The distribution of the latter is done using dispensing machines that are in permanent communication with the supplier, which makes an unlimited PPE ordering system with complete traceability possible.

Digital transformation or industry 4.0:

- We are continuing with the steps started in 2018 towards digital transformation, or industry 4.0, with the incorporation of:
- Team and critical process communications to areas involved with them, paint booths for painting structures, SAT, parts, retouching, Paint-2 (production lines A, B and C).

Future plans

As we said at the beginning, we consider Irizar to be a leader in hygiene and ergonomics-comfort measures, and we hope to continue in this line, with the involvement of all the workers. Likewise, among the goals planned for improving working conditions and facilities, we can highlight:

- **A multidisciplinary team to improve ergonomics** with the participation of the workplace risk prevention, physical therapy services, production and staff areas
- The implementation of a new ergonomics software application
- Continuous development of a business continuity plan in collaboration with the insurer
- Monitoring with the training of the Metal collective bargaining agreement and new people who are hired at Irizar
- Creating new drive technologies: ie truck, hydrogen coach, etc.
- More ergonomic improvements in prior, SAT, bodywork areas, etc.
- Progress in automation

4.6.3. Other health and well-being services

- **Medical care for people** (occupational and emergency) Irizar provides all its people with integral medical care and services. At the facilities, we have a medical service, which has the necessary means to carry out measures for the prevention of general health problems, such as occupational illnesses, maintenance of occupational health, and diagnosis and treatment of acute illnesses related to injuries and accidents.

Periodic medical check-ups are carried out with the health monitoring service according to the protocols established as a form of health prevention.

- **Physical therapy services** We also have a daily physical therapy service in the facilities as a preventive measure for postural and ageing problems.
- Additionally, people who are members of Irizar have **personal health and dental insurance** with leading Spanish companies that have excellent coverage. As an additional service, it offers the option of providing medical and dental coverage to direct family members under absolutely advantageous conditions.

Irizar also has integral personal medical insurance for all contract employees with more than one year of seniority until they become partners.

- Periodically, Irizar engages in a continuous task of promoting **healthy lifestyle habits** through campaigns and counselling. The aim is to convey healthy values and help improve health, both personally and at work.
- **Dining area** Irizar has its own food service, offering all personnel the possibility of eating a high-quality healthy diet, including fresh products from local farmhouses and establishments. Continual improvements are made to the menu and cooking methods in the company dining area (reduced salt, oil, fried dishes, etc.). This has been extremely popular and the number of guests served in the dining area has increased significantly. Among others, consumption of salad is encouraged by setting up a salad bar in the company dining area as a complementary option to the daily menu.

Good eating habits are also promoted through TV screens in the dining area. A new communication platform to promote healthy habits is going to be installed.

- **Physical activity** is also encouraged, sponsoring people participating: representing Irizar in Empresen Lasterketa (business race in Donostia) or in other sporting events (Zegama Aizkorri, Ehun Milak, etc.).



4.7. Shared leisure activities

Irizar encourages recreational activities outside the workplace for workers, to facilitate closeness to their families and enhance their sense of belonging.

As an example, those that took place **in 2019**: Photography competition, Korrika (a march held in Euskadi in support of the native language, Euskera), and the Exit to Ondarre (a hamlet for learning about the rural way of life that we have very close).

Also, we have taken the opportunity for new activities, coinciding with **the first months of the pandemic in 2020**, to be **united with families**:

- A drawing contest with the theme "Irizar and buses" with awards in three categories (up to 8, 9 to 13 and 14 to 18)
- A contest to create an Irizar logo aimed at families of all companies in the Irizar Group, which had three awards

In 2021, promoted by the Basque language group at Irizar S. Coop. (Euskara Taldea), a **contest was done of summer videos, which was expanded to other bus production plants of the Irizar Group** (Mexico, Brazil, South Africa and Morocco), with the goal of bringing value to language of every place. Thus videos could be sent in Euskara, in your mother tongue or in the language that is used in the place you are.

In 2022, organised by the Basque language group at Irizar S. Coop. (Euskara Taldea):

- **Summer photo contest** Recording and sending videos about people at Irizar internally. There were brief interviews where they talked about their hobbies, like cooking, bertsos, singing, etc.
- **We participated in the 2022 Korrika** and carried the baton for the kilometre in front of Irizar.
- Celebration of Basque Language Day, where an **IZIR brand Circular Economy mouse pad was given away**, which is discussed in detail in

the "environment" chapter.

- A gymkhana of questions was organised **with a prize** (a basket of products from Errigora).

In 2023, organised by the Basque language group at Irizar S. Coop. (Euskara Taldea), we:

- **Celebrated Basque Language Day** at Irizar.



For that reason, we also participated in a workshop organised by Ingudea, a commission Irizar participates in with other companies from the Goierri comarque (CAF, AMPO, Ederfil Becker, Eedu, and Indar Ingeteam), and that has two main goals: that more companies in the comarque join the initiatives to normalise the use of the Basque language in the workplace, and that the companies (Irizar among them) that make

up Ingudea learn from each other. At the workshop, four companies presented their good-practices and, afterwards, they exchanged opinions, talks and a few pintxos.

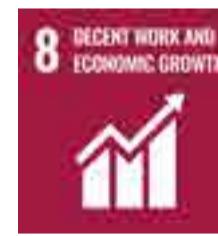
- Summer photography contest



WE CREATE VALUE FOR OUR EXTERNAL PARTNERS, SUPPLY CHAIN, AND ALLIANCES

Contributing to the SDGs and goals of the UN 2030 Agenda:

Priority SDGs



- 8.1. Maintaining economic growth
- 8.2. Raising productivity through diversification, technology and innovation.
- 8.5. Achieving full employment and decent work
- 8.7. Eradication of slavery, trafficking and child labour
- 8.8. Protection of labour rights and safe work



- 9.2. Promotion of inclusive and sustainable industry
- 9.4. Infrastructure modernization, clean technology
- 9.5. Increase in scientific research, technological capacity.



- 11.2. Providing access to public transport
- 11.6. Reduction of environmental impact in cities.



- 12.6. Adoption of sustainable practices in businesses
- 12.8. Ensuring education for Sustainable Development
- 12.8. Achieving sustainable tourism



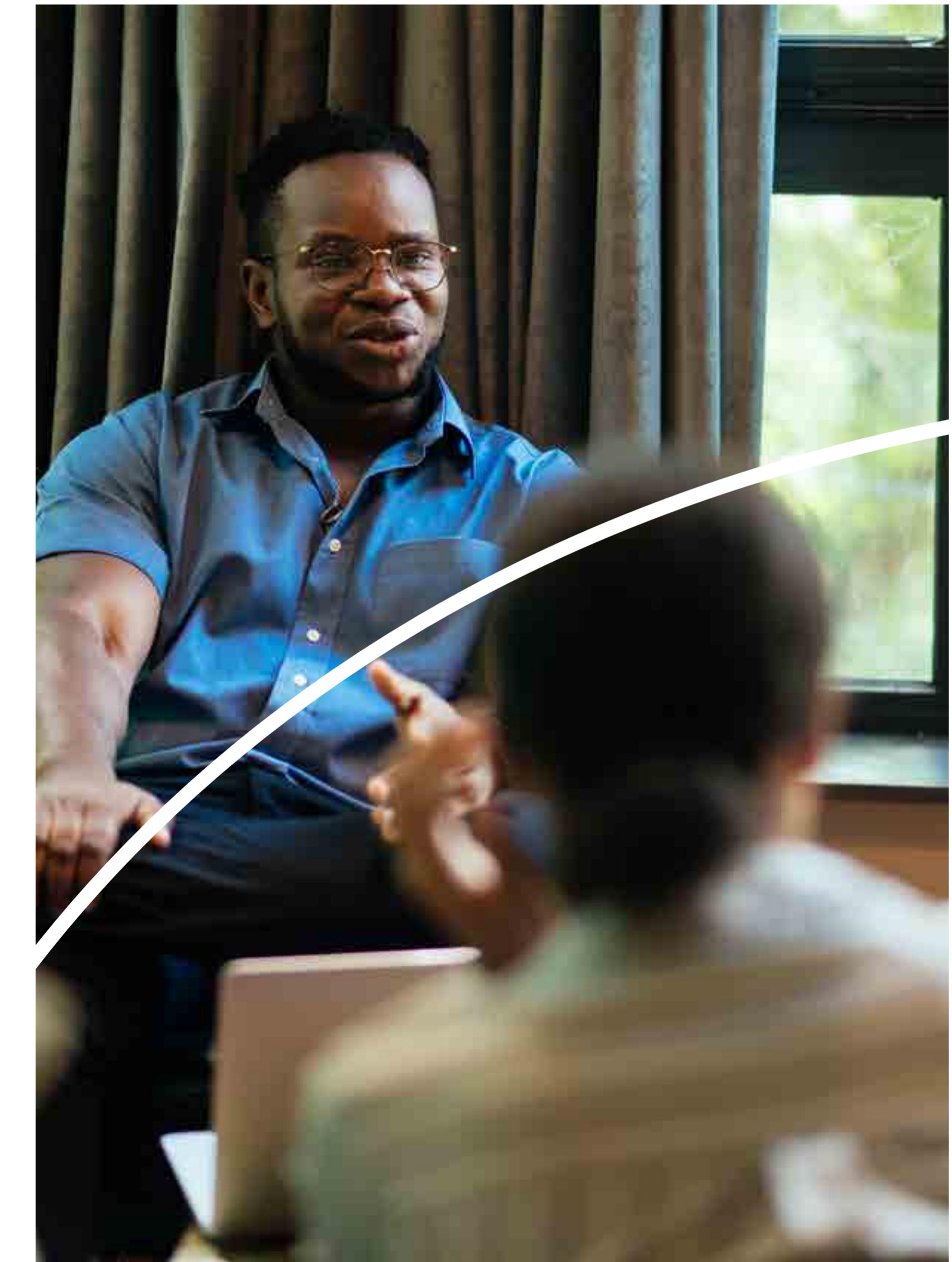
- 13.1. Strengthening resilience and adaptation
- 13.3. Improving environmental education and awareness



- 5.1. Ending discrimination
- 5.5. Ensuring the full participation of women and equal opportunities in leadership



- 16.2. Eradication of child abuse, exploitation, trafficking and child exploitation
- 16.5. Reducing corruption and bribery
- 16.10. Access to information and fundamental freedoms
- 16.11. Promotion and application of laws and policies (Human Rights)



WE CREATE VALUE FOR OUR EXTERNAL PARTNERS, SUPPLY CHAIN, AND ALLIANCES

5

5.1. Our value chain

- Commitment to a sustainable value chain integrated with the 2030 Agenda SDGs

5.2. Distribution, sales and after-sales network

5.3. Sustainable Supply Chain

- Sustainability requirements for our suppliers.
- Supplying cells for batteries and complete battery packs
- Questionnaires about behaviour and environmental improvements for suppliers

5.4. Purchases committed to the social surroundings

5.5. Logistics optimisation at the Group level

5.6. More agreements and strategic alliances

- R&D - Future projects
- Basque Hydrogen Corridor: BH2C
- UITP (International Union of Public Transport).
- Alliances and collaboration with the environment.
- AERCE (Association of purchasing, hiring and supply professionals).

5.1. Our value chain



As we saw in the chapter on "Sustainable Competitiveness" our entire value chain is focused on creating value for our customers and other stakeholders, raising awareness and encouraging everyone to share our commitment to sustainability, to increase the positive impact that together we can have on People and the Planet.

Consistent with our business strategy, our alliances with different outside collaborators play an important role in Sustainable Competitiveness at Irizar.

In addition to the different types of collaboration that we establish with external partners, supply chain and alliances that we discuss in this chapter, we also discuss special relationships and alliances with partners in the rest of the chapters of this Report:

- **"Sustainable Competitiveness"**: United Nations Global Compact And how we contribute to raising awareness about Sustainability throughout society by actively participating in various forums.
- **"Clients, passengers and citizens"**: Clients, the European Commission, consortiums, associations of haulers, in addition to agreements with other organisations and European research centres we share technological innovation projects with, collaboration agreements with other companies to develop products or functionalities jointly or to give a second life to batteries.
- **"People"**: we have agreements with universities and training centres.
- **"Environment"**: Foundations and organisations we collaborate with for the Circular Economy of production surpluses and participation on the public-private initiative for the largest solar park in the Basque Country
- **"Society"**: includes our collaboration or sponsorship agreements for activities and non-profit organisations with the social environment nationally and internationally.

Our goal is to continue innovating and taking on new challenges, strengthening ties and looking for collaborators with the goal of staying at the global forefront and establish relationships and alliances with those collaborators based on Sustainable Competitiveness (Economic/Governance, Social and Environmental). We promote pioneering alternative energy projects in new fields with collaborators focused on innovation and seeking new business models that promote the collective transport of people.

To those ends, in addition to our sustainability actions internally, with clients and with society in general, our goal is to raise the **ambition of our commitment to guarantee a SUSTAINABLE SUPPLY CHAIN** that includes suppliers and sales and distribution companies, and service shops.

Commitment to a sustainable value chain integrated with the 2030 Agenda SDGs

As we put forth in chapter 2, about Irizar and **Sustainable Competitiveness**, in 2023 we kept improving our impact on the high-priority KPIs in our commitment to the SDGs of the 2030 Agenda. Consequently, below we are showing our sustainable value contribution to our value chain in:

A. **CLIMATE**: Reduction of scope 3 category 3 GHG emissions (caused by upstream and downstream transport by suppliers and clients), and category 4 emissions (caused by products and products that come from suppliers that Irizar uses) It can be seen in detail in the chapter about the environment.

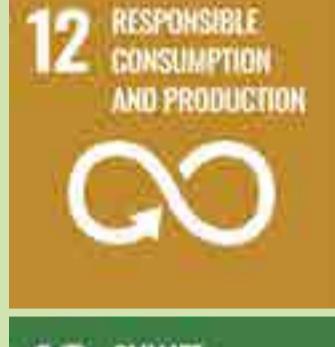
C. **TRUST AND INTEGRITY**: Three KPIs for making progress towards a responsible supply chain: one of them with a changeable goal and the rest with goals to be specified later as we make progress on improving our Ethics and Compliance System, and in human rights and the due diligence process, respecting human rights and the environment in global supply chains. All of that is discussed in more detail in chapter 2 about our Sustainable Competitiveness.

F. **EXTENDING SUSTAINABLE DEVELOPMENT**: We continued with a KPI with our commitment to contributing to making improvements in other people and external (public and private) organisations to contribute to spreading the "oil stain" of Sustainability beyond our organisation to our stakeholders and society at large. We share our knowledge and experience with Sustainability in numerous forums, and awareness raising and training activities.



PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
A. CLIMATE										
 HUMAN RIGHTS		3. Reduce TOTAL GHG emissions Includes: Scope 1 and 2: CATEGORY 1: Direct GHG emissions and removals CATEGORY 2: Indirect GHG emissions caused by imported energy Scope 3: CATEGORY 3: Indirect GHG emissions caused by transport CATEGORY 4: Indirect GHG emissions caused by products Irizar uses CATEGORY 5: Indirect GHG emissions associated with the organisation's use of products	tCO ₂ eq	1,713,290	1,659,534				-5%	2022 - Annual
 LABOUR				ISO14064-1:2019	(-3%)			Carbon footprints are verified one year later		
 ENVIRONMENT										

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
C. TRUST AND INTEGRITY (cont.)										
 HUMAN RIGHTS	 5 GENDER EQUALITY  8 DECENT WORK AND ECONOMIC GROWTH	12. Making progress towards a responsible supply chain with SUPPLIERS committed to Sustainability Strategic suppliers (A + B) with a SUSTAINABLE CONTRACT <ul style="list-style-type: none"> a. New suppliers with SUSTAINABLE CONTRACTS b. A+ B strategic suppliers c. Suppliers with the most risk of infringement <ul style="list-style-type: none"> o in human rights (to be specified) o the environment (to be specified) 	No. suppliers % ACCUM. A+B	17 13.6%	34 27.4%	39 31.5%	41 33.9%	49 37.4%	a. 100% <small>specify high-priority human rights + MA EU due diligence directive</small>	2024 ---
 LABOUR	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  13 CLIMATE ACTION	13. Evaluate/monitor our SUPPLIERS with higher Sustainability priority <ul style="list-style-type: none"> • Questionnaires ANALYSED from environmentally vulnerable suppliers Suppliers with the highest risk of infringement: <ul style="list-style-type: none"> • in human rights • environmental 	NO. suppliers evaluated ACCUM. % vulnerable suppliers evaluated	 13 48%	 16 59%	 18 82%	 25 96%	<small>specify high-priority human rights + MA EU due diligence directive</small>	<small>Base year: 2023</small>	Set goals according to human rights + MA priorities
 ENVIRONMENT	 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	14. Making progress towards a supply chain Manager with a commitment to Sustainability from other external involved parties: <ul style="list-style-type: none"> a. distributors b. commercial partners c. clients... 	% organisations trained / Total	 a. b. c.	 a. b. c.	 a. b. c.	 a. b. c.	100% <small>Set priorities and deadlines by type</small>	2026	

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
F. EXTENDING SUSTAINABLE DEVELOPMENT										
 HUMAN RIGHTS  LABOUR  ENVIRONMENT  ANTICORRUPCIÓN	 5 GENDER EQUALITY  8 DECENT WORK AND ECONOMIC GROWTH  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  12 RESPONSIBLE CONSUMPTION AND PRODUCTION  13 CLIMATE ACTION  16 PEACE, JUSTICE AND STRONG INSTITUTIONS  SUSTAINABLE DEVELOPMENT GOALS	<p>23. Contribution to improvement in the sustainability of other external people and organisations (public and private). Irizar S. Coop. is located</p> <p><u>Sharing our knowledge of and experience with Sustainability</u> in forums and training and awareness raising activities:</p> <ul style="list-style-type: none"> • High priority stakeholders (to be specified): Clients, suppliers, distributors, etc • Group coach Companies • Other Group Companies • Students, external organisations and other people in the social environment 	no. actions / year	8	12	25	43	50	Minimum 20 actions / year	annual

 BASE YEAR: year data in **blue** if shown in OBJECTIVE later

5.2. Distribution, sales and after-sales network

As we saw in chapter 3 "We create value for our clients, passengers and citizens", we stay close to our clients through the entire value chain and we integrate them into our internal processes, for example, making them participants in creating new designs.

We have **our own sales and after-sales teams**. And we are continuously expanding our sales, distribution and after-sales network around the world through **collaborations and alliances with distributors and commercial partners** in the more than 90 countries around the world where we have a presence. At <https://www.irizar.com/red-de-posventa> you can see our vast network in more detail.

The development and expansion in the market of new technologies, like gas and hybrids, has gained ground through our own commercial network in Spain, Italy and France, providing reductions in consumption around 20% and reductions of CO₂ emissions close to 30%. In 2023, we can highlight establishing ourselves in the Netherlands, where Irizar has taken another step in their European expansion, establishing commercial activities with two new sales people.

Since 2022, irizar has also kept strengthening its commercial and distribution presence in several markets, like Norway, Germany and Sweden, in collaboration with Scania.

In Europe, which is the area of greatest influence of Irizar S.Coop., we are present in every country and, where we do not have our own network, we have commercial alliances with partners based on trust, ethics and the search for sustainable shared competitiveness. In the EU alone, the after-sales network has a coverage greater than 300 of their own and outsourced garages with mobile units operational 24h. The logistics network for spares distributes orders to the vast majority of Europe in 24h, which guarantees that vehicles can be repaired and back on the road quickly.

In December 2022, Irizar decided to drive progress in human rights in anticipation of the future European **due Diligence directive for companies regarding sustainability, respecting human rights and the environment in worldwide supply chains.** In 2023 in the Business & Human Rights Accelerator programme of the United Nations Global Compact we learned, as our KPI 14, shown in the previous section, indicates we hope in the near future to add our distributors to the responsible value chain, basing our commercial relationships on the **principles of the UN Global Compact** (human and labour rights, anti-corruption and the environment).

We gave **training courses** periodically to update the knowledge of the technicians at our **extensive network of aftersales** garages. They dealt especially with issues of safety, repairs and maintenance so they are top quality.

We have an online technical training system, **iTraining**, for training and repairing vehicles. The platform is aimed at Irizar dealers and distributors, giving them chance to do online tests and training at the same time they can contact other dealers in forums. In the last two years, new interactive con-

tent has been included that uses training courses for new systems/models that Irizar has launched on the market and that lets us transmit knowledge to the repair technicians for our vehicles with greater speed and efficiency. The tool has been judged very highly for training our repair technicians.

In order to provide the most complete services possible to our clients, at Irizar we have strengthened our repair and maintenance services and spare parts contracts with our clients. We are implementing an exclusive after-sales and warranty service in cities where **electromobility and hybrid** solutions are in use. Management is done in an integral and centralised way by expert technicians and people hired locally, which contributes to local wealth generation and employment. At the same time, there are collaborations with local educational organisations to provide opportunities for people finishing their studies to join an advanced technological sector like electromobility.

We continue developing **monitoring and remote-diagnostics solutions for Irizar vehicles** using the platform where errors displayed on a vehicle's dashboard screen can be monitored remotely. The system also makes it possible to follow preventive maintenance plans in order to minimise vehicle stoppages. It is discussed in detail in the sections titled "Connectivity-Big Data" in chapter 3 about "Clients, passengers and citizens".



5.3, Sustainable Supply Chain

Our suppliers and external partners are able to offer products and services that help us improve our brand and our competitive position, which makes them key links in our supply chain.

We enable a **high level of integration with suppliers while developing our products and processes** by mobilising and exchanging knowledge, specialisation, technology and resources. We encourage and promote setting up effective alliances by making the most of the various actors' experience and strategies. A noteworthy example of this is our alliances with key suppliers for integral coach components, without which the progress we have made in consolidating our strategic commitment to become manufacturers of complete coaches.

With the main suppliers, we make what could be called "per coach logistics management", which lets **those suppliers be involved in the day-to-day management** of Irizar, planning production, orders, goods received and continuous client reviews regarding confirmed specifications and their associated items per coach.

Our **alliances with suppliers** are extended to give services to clients **over the life of their vehicle**, both covering the warranty of its items and any after-sales service needed. That is why our suppliers are present in our sales and after-sales network.

The **Sustainability of the supply chain** is administering the economic/governance, social and environmental impacts over the life cycle of our vehicles and services. The goal of supply chain sustainability is to create, protect and cultivate, in the long term: the environment, social and economic value for all stakeholders that participate in bringing products and services to the market.

We are working for a sustainable management of the supply chain which allows us to:

- Establish **good business practices** in the markets we operate in around the world, and thus make our contribution to respecting and defending human rights, protecting the environment and climate, etc. at the same time
- we build **trust with our stakeholders** at Irizar as a responsible and sustainable partner, improving the **reputation and image of our brand**.

At Irizar, we promote and back responsible processes for acquiring services and raw materials at the same that we are committed to reducing social, ethical and environmental risks in the supply chain. For that reason, when we start working with new collaborators at Irizar we include Sustainability from the beginning of the relationship, even including it in the Contracts we sign.

The goal is none other than guaranteeing that, in addition to following the law, **our suppliers and their suppliers alike**, must adhere to our supply chain sustainability standards based on the **principles of the UN Global Compact** (human and labour rights, the environment and anti-corruption).

In addition to establishing **lasting relationships with suppliers** that are competitive based on the parameters of a classic business relationship (quality, cost, service and innovation), we are committed to reducing social, ethical and environmental risks in the supply chain. We strive to work closely with suppliers and partners for compliance with our sustainability principles and also in their businesses. For us, it is essential that our suppliers and business partners have the same sustainability standards that we have established for ourselves. For that reason, at the margin of new incorporations, we are extending the purchasing contract based on the **principles of the UN Global Compact** (human and labour rights, anti-corruption and the environment), gradually to our **strategic suppliers**, even though we have had a stable relationship with them for years.

Despite the enormous problems in supply chains around the world and thanks to the high degree of integration and trust with our main suppliers, from 2020 to 2023 we were able **to meet the demands of our clients without undergoing any stoppages on our production lines**. It is during the hardest times when the solidity of alliances is most put to the test.

Sustainability requirements for our suppliers

Our sustainability standards have defined the requirements that our suppliers must meet, according to the contractual agreements signed. The most important requirements include the prevention of child labour, and unlawful employment, the establishment of ethical standards and anti-corruption policies, and commitment to environmental protection and selection of raw materials.

In addition to asking suppliers to present certifications of legal and regulatory compliance and a confidentiality agreement, the **current contractual agreements** we are offering to our strategic suppliers include the following Sustainability terms that suppliers must guarantee:

Human and labour rights

- Respect for personal dignity, privacy and the rights of every individual
- No one on their staff is subject to forced or compulsory labour
- They do not tolerate or use child labour
- They do not tolerate discrimination in employment for any reason: sex, age, race, national origin, religion, disability, sexual orientation, union or political affiliation.
- They do not allow, practise or support acts of physical, verbal, sexual or psychological harassment, abuse or threats in the workplace.
- They do not tolerate human trafficking
- Their workers enjoy decent conditions
- Fair wages and benefits are provided
- They support freedom of association and collective bargaining
- They provide a safe and healthy work place for all their employees, as well as for jobs that may be done by third-parties or companies in different facilities
- They promote active policies in matters of health and safety, to ensure maximum protection against risks.

Environment

- Prevention or at least minimising environmental risks and excessive resource consumption. This includes, among other things:
 - energy efficiency of products or services,
 - reduction of GHG emissions
 - criteria in the selection of materials,
 - prohibitions of specific substances
 - recovery or reuse of containers or packaging
 - recycling of delivered components
- Operating with an environmental management system certified under ISO 14001, EMAS or other similar standards (or proof that they are working towards such certification)

Anti-Corruption

- Fighting effectively against corruption in all its forms, including extortion and bribery

Forms of corruption: Money laundering, financial manipulation, falsification of documents, fraud, payment of commissions or bribery, embezzlement, tax fraud, influence peddling, abuse of power, conflict of interest, obstruction of justice, etc.

We are driving our suppliers to meet those Sustainability requirements.

As we discussed in the first section, our objective is to raise the ambition of our Commitment to guaranteeing a SUSTAINABLE SUPPLY CHAIN, starting by enhancing what we already do with Suppliers (mainly from the Purchasing and Industrial areas). Along those lines, we are going to keep setting priorities and defining actions with the awareness that we have a long way to go. The goals we set are focused on the establishment of a responsible, solid and rigorous management system to strengthen our involvement in sustainability issues linked to operations, products and services through the supply chain.

As we discussed at the beginning of this chapter, and more widely in chapter 2 about "Irizar and Sustainable Competitiveness", at Irizar, in 2022, we decided to take steps towards a responsible supply chain, and establish three KPIs related with our progress in improving our ethics and compliance system, and for human rights and the due diligence process, respecting human rights and the environment in our supply chain from our suppliers.

Supplying cells for batteries and complete battery packs

At the Irizar Group, depending on the battery technology we put on board the electric and hydrogen vehicles with our brand and technology, we either manufacture and develop our own batteries and acquire cells with different chemicals, or we purchase complete battery packs. As these are materials whose extraction poses a potential risk of human rights violations, at Irizar e-mobility we are in constant contact with suppliers to increase the level of transparency in the cell supply chain.

Our responsibility is to ensure that the components we receive from suppliers are manufactured under sustainability principles, thus counteracting social and environmental risks in the supply chain. We encourage compliance with that among our suppliers of cells and battery packs and monitor their progress and do audits (ourselves or with third-parties) of their mineral suppliers.

We verify that all our suppliers have public commitments that enable them to have a responsible supply chain: Human Rights Policy, Environmental Policy, Code of Conduct and Due Diligence Processes

Furthermore, we make sure to know whether they adhere to international initiatives for responsible business conduct in global supply chains, and especially minerals. In 2023, we had cell providers adhered to some of those initiatives, such as:

- The **RMI (Responsible Minerals Initiative)**, which is one of the most used resources by businesses in a variety of industries that deals with

problems related to responsible mineral purchasing (from areas affected by conflict and at high risk) in their supply chains.
<http://www.responsiblemineralsinitiative.org/about/>



- The **RBA (Responsible Business Alliance)** is the largest industrial coalition in the world for responsible business conduct in global supply chains. It is a not-for-profit organisation made up of electronics, retail, automotive and toy companies that is committed to supporting human rights and the well-being of workers and communities around the world who are affected by global supply chains, to back continuous improvement in social and environmental responsibility, and the ethics of their supply chains.
<http://www.responsiblebusiness.org>



- The **RCI (Responsible Critical Mineral Initiative)**, which was previously called the Responsible Cobalt Initiative. The RCI encourages its members to put a high priority on responsible business conduct and continuously improve their performance in managing and due diligence of their supply chain, and actively make use of industry in-

fluence and collaborate with upstream and downstream suppliers in their supply chains to build a responsible, resilient and sustainable supply chain of critical minerals.



We do monitoring of all our suppliers, including their own progress as well as of their mineral suppliers (through their own or third party audits). We ask our suppliers to work with their suppliers to guarantee the traceability of conflict minerals, at minimum to the foundry level, and to communicate those details using the **CMRT (conflict minerals reporting template)**. That means our suppliers have a responsible Mineral supply chain through systems of accountability for mineral acquisition and that they carry out due diligence processes with their suppliers.

After undergoing an external evaluation, one of our suppliers was awarded the EcoVadis gold medal in 2023. Their corporate sustainability initiatives were evaluated from four aspects: The Environment, Labour and Human Rights, Acquisition of Sustainable Materials and Ethics.

Our goal for the future is to continue redesigning battery development and manufacturing processes to make them more sustainable.

Questionnaires about behaviour and environmental improvements for suppliers

The evaluation of environmental suppliers can be found in KPI 13, which is at the beginning of this chapter.

In 2021, we analysed environmental behaviour questionnaires from our suppliers that have the greatest environmental impact: suppliers of chemical products and energy resources. The indicators on the supplier questionnaire included:

Environmental commitment and management of the supplier
Suppliers with environmental certification
Suppliers with SDG contributions
Suppliers with CSR
Suppliers that indicate complete legal compliance
Suppliers that indicate knowledge of IRIZAR's environmental policy and commitments
Products supplied to Irizar
Products that include an environmental variable
Products that have some kind of ecological labelling
Suppliers that supply products in packaging with some kind of environmental criteria
Suppliers that consider the possibility that the containers/packaging for the products they supply may be returnable (reused)
Has measures implemented for reducing the environmental impacts related with the end of life of their products

Environmental aspects of supplier organisations

Energy consumption

Supplier organisations that consume energy from renewable sources

Supplier organisations that have specified actions/plans for lowering energy consumption

CO₂ emissions

Supplier organisations that have done a Carbon Footprint Calculation for their business activities

Supplier organisations that have verified their emissions

Supplier organisations that have specified actions/plans for reducing CO₂ emissions

Supplier organisations that have specified actions/plans for offsetting CO₂ emissions associated with their business activities

Waste management

Supplier organisations that have protocols for separating, labelling, storing and managing waste

Supplier organisations that indicate they have documentary registries that prove the dangerous waste they produce is managed properly

Supplier organisations that consider actions in their business to give a 2nd life to excess materials from their production

Supplier organisations that apply actions/plans for reducing, reusing and recycling their waste

Mobility

Supplier organisations that apply sustainable mobility plans for delivering their products

Supplier organisations that do a CO₂ emissions calculation associated with transporting their products

Supplier organisations that apply some kind of sustainable mobility action/plan for transporting the products they supply to Irizar



We drew two conclusions from the analysis of the results:

- The suppliers were hardly dealing with environmental issues, so we had work to do for awareness raising and to keep driving progress.
- We needed to make a much simpler questionnaire with basic requirements for NON chemical suppliers.

In 2022 we continued driving suppliers of chemical product, energy resources, materials and services to improve the environmental factor in the supply chain:

1. Electrical energy We renewed the electrical energy contract until 2027 and agreed that it must be from renewable sources. You can see more details in chapter 6 The Environment

2. Suppliers of Products and Materials We adapted the questionnaire to the supplier type, but we decided to initially work on the questionnaire with waste management companies and other service providers.

3. Waste management providers We requested, received and analysed the questionnaires from all the waste management providers. The indicator defined for the questionnaires takes that information into account.

4.Returning surplus materials to suppliers The suppliers with whom we keep analysing waste collection of Irizar materials was expanded, such that they can be sent to the IZIR project (it can be seen in chapter 6 about the environment). That reduces dumping waste from the supply chain into landfills and facilitates sending surplus materials to suppliers for reuse.

5.Irizar contractors

- We gave environmental training to everybody **hired for paint booth maintenance and other auxiliary facilities**, and we also provided a personalised good-practices manual.
- With the **hazardous waste management company** we analysed lower impact alternatives for managing hazardous waste dumped in a landfill with a higher volume of generation, even though the market does not offer lower impact solutions. This supplier has reported their carbon footprint since 2022, and they have committed to having their annual report included in the carbon footprint for Irizar's business activities.

In 2023, we kept evaluating **product suppliers (P) and service providers (S)**. The main conclusions are:

1. More than 80% of the suppliers (P and S) have environmental management certification.
2. In regards to products supplied: 40% include the environmental variable, 36% have packaging with environmental criteria and 16% have or are considering returnable packaging.
3. 52% of the P suppliers have calculated their carbon footprint, in comparison with 40% of the S suppliers.
4. Insofar as mobility, 38% of the P suppliers do a CO₂ emissions calculation for transporting their products, while 10% of the P suppliers and 20% of the S ones do improvement actions for supplying Irizar.

As a consequence of those questionnaires, we have planned to do the following actions:

- Keep encouraging suppliers to obtain environmental certificates
- Include new environmental criteria in contracts that promote activity carbon footprint calculations for products and activities
- Encourage suppliers to use returnable packaging that are reusable or have a recycled origin

5.4. Purchases committed to the social surroundings

We can highlight our high commitment to our local area, because our **purchases from companies in the region** of materials and services have increased in recent years. In comparison with previous years, we have slightly increased our purchases in the province of Gipuzkoa, reaching 19% of the total in 2023.

On the other hand, we have continued reducing **purchases from distant countries**, like China, where our purchases have stayed below 2% since 2021.

We have stable significant relationships with **suppliers with social purposes**:



- **KATEA**: An organisation aimed at work and social integration for disabled people in Gipuzkoa. There were 50 people who worked for Irizar S. Coop. in different activities in 2023, an increase over previous years.
- **IKASLAN**: A foundation whose purpose is education, training and social-technical development for young people, with a preference for the Goierri regional territory. It provides metal pieces and sub-assemblies to Irizar.
- **GUREAK**: An organisation that manages work opportunities for disabled people in Gipuzkoa. They usually do battery assembly and gardening.
- **HAZLAN**: A social integration company that includes people in the Bidasoa region who have difficulties incorporating themselves into society into its business activities. They do sewing.

5.5. Logistics optimisation at the Group level

Through its logistics area, in recent years the Irizar Group has been immersed in a project to adapt and reassign routes with the primary goal of optimising resources dedicated to transporting their goods to make gains in efficiency and costs, and to minimise their environmental impact. In 2023, the analysis of the impact of all the logistics movements of Irizar S. Coop. goods and between the Irizar Group's plants was continued.

As was done the preceding year, this year the analysis of the environmental impact of transport done by collaborators was expanded.

The categorisation was maintained in the following way: maritime, air and land. Consequently, in 2023 progress was made with all modes of transport, continuing the ongoing improvement in that optimisation that began five years ago. Specifically, work was done with the largest domestic overland transport operator, where the renewal of 50% of their fleet with low emissions vehicles was advanced. A reduction of CO₂ emissions from the transport required to carry out the activity is expected from that kind of action.

In 2023, work was continued on optimisation and laying down the foundations for maintaining record levels of occupation in terms of volume

of the containers sent to the group's external plants by sea. Specifically, the average values this year are the following: 71% occupation for shipments to Irizar México and 53.8% for Irizar Brasil, which is an improvement over the 68.5% and 49.2%, respectively, from 2022.

The values Irizar S. Coop. emissions for maritime, land and air transport were also analysed in 2023. With that data, we can generate a stable base of analysis from which we can evaluate our environmental impact and initiate improvement actions in consequence.

- CO₂ total emissions (kg)
- Average CO₂ emissions per kg

However, we are not presenting the data from 2021 and 2022 that we included in our 2022 Sustainability Report, because they are not directly comparable. **We managed to get the transport operators to improve the method of calculation in 2023, refining and including more information, which makes an impact on improving the quality of the data.**

It seems like we are already at a point very close to reality, and every year we will have more similar and comparable data so we can put more actions on the table.

Irizar S.Coop. SUMMARY OF RESULTS OF TRANSPORT 2023 - Including export Irizar to companies in the Group

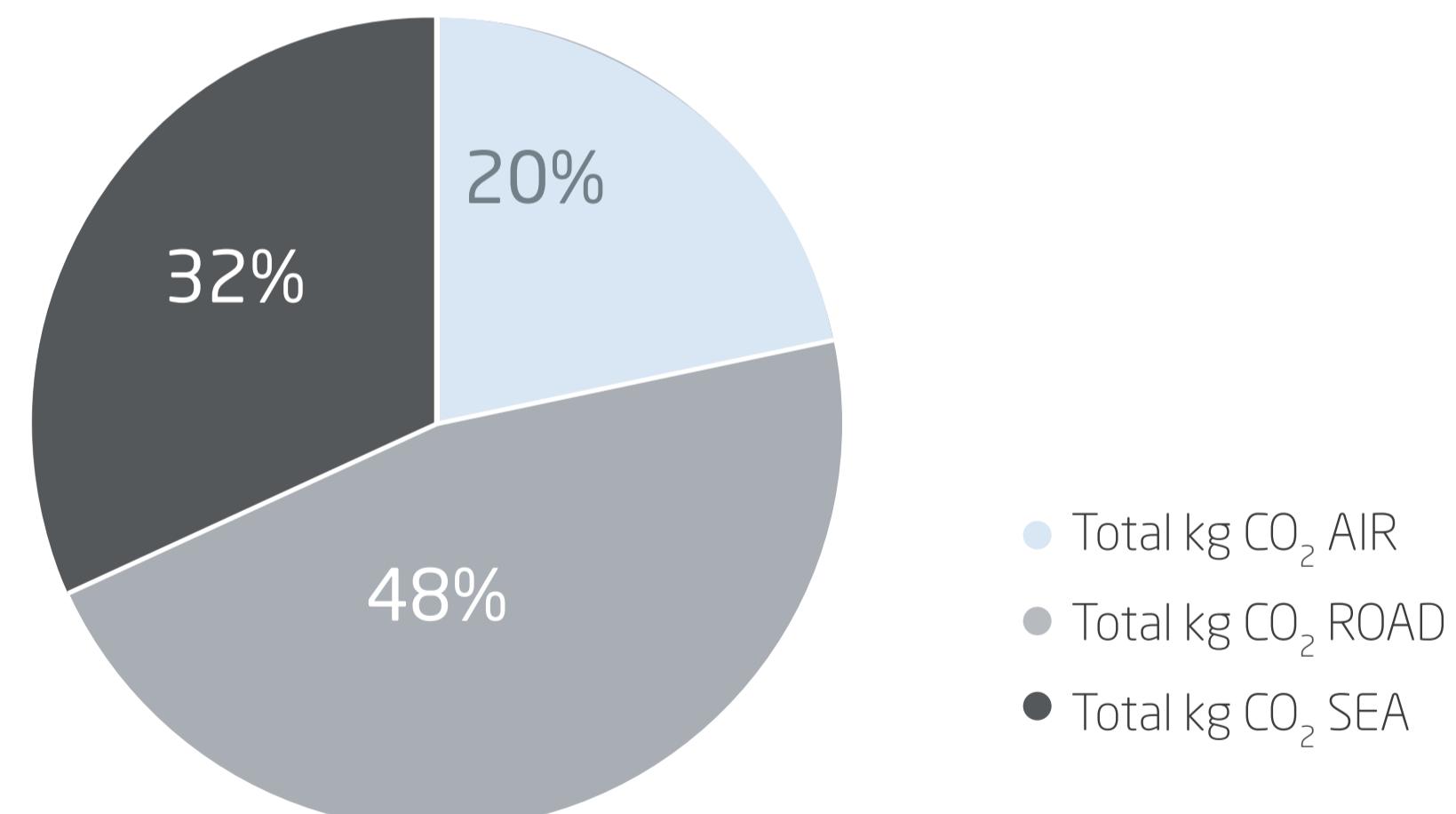
Mode of Transport	Number of Shipments	Gross weight (kg)	Emissions Air: CO ₂ Well to Wheels2w/ Sea, Road: CO ₂ (kg) Total	Average Gross Weight (kg) per shipment	Average CO ₂ Emissions (kg) per shipment	Average CO ₂ Emissions per kg
Air	938.00	68,605.00	484,397.60	269.50	1914.92	13.96
Road	18,555.00	24,940,115.00	1,175,602.00	16,738.03	1694.32	0.85
Sea	344.00	4,184,229.00	794,799.00	12,163.46	2310.46	0.19
Sum:	19,837.00	29,192,949.00	2,454,798.60	-	-	-

The data obtained this year has changed the picture significantly in comparison with previous years. Sea exports to the plants of the Group have been reactivated, which has created a large increase in the values of CO₂ emissions for sea transport. It is important to highlight that, despite the total number of shipments and emissions - in consequence - have increased, the value of emissions per kg transported has remained stable. That is due to the optimisation of filling/stowage of every container.

Consequently, the summary per mode of transport for 2023 in terms of total emissions is as follows:

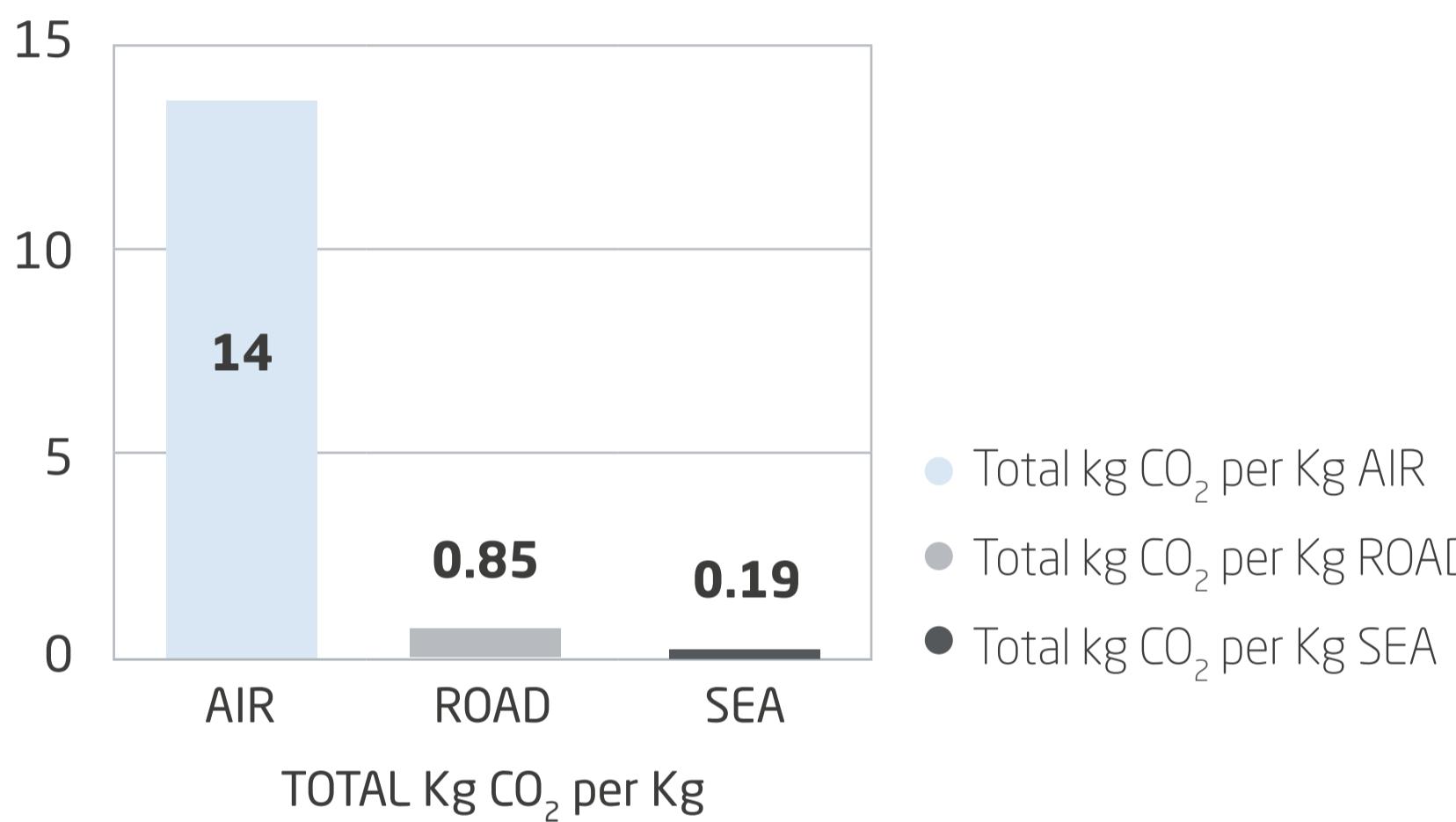
Emissions per mode of transport

Total CO₂ Emissions (%)



In addition, it was observed that the highest polluting mode of transport per kg moved is air, with a large difference vs. sea transport, which we promote at Irizar S. Coop.

Emissions (Kg CO₂ per Kg)



With that data, 90% of the impact of the imports and exports of materials needed for transporting goods for producing coaches at Irizar S. Coop. are covered. (including maritime freight exports to the Irizar Group plants in Mexico and Brazil).

This base table will be used in the future to obtain relevant data to establish improvement actions for reducing CO₂ emissions from logistics.



5.6. More agreements and strategic alliances

At Irizar we want to play an active role in defending our industry and its high added value to promote the recovery of the economy and the generation of employment. We must continue to innovate, rethink globalization from the local point of view and face the major challenges that we find ourselves in by strengthening ties and looking for collaborators with the aim of staying at the global forefront.

In addition to all the agreements and alliances that we have already addressed, in this or other chapters of the Sustainability Report, we can also highlight:

R&D - Projects for the future

As we have already seen extensively in the chapter "Customers, Passengers and Citizens", we are actively engaged, together with large European brands, research and development centres in important European and national projects, in shaping the future of sustainable mobility in cities and public transport.



We have the **Creatio R&D centre (Irizar Innovation Centre)** at our central headquarters that is focused on enhancing applied research and technological development capabilities in cooperation with different companies in the Irizar Group for products with its own brand as well as the main components for coaches. Projects led by CREATIO also have the collaboration of external partners.

In addition to these activities, within the Group, we collaborate with **external technology and research centres to complement our** knowledge and technology: CEIT, CIDETEC, CIKATEK, IDEKO, IDIADA, IN-SIA, IK4-AZTERLAN, IK4-LORTEK, LEARTIKER, TECNALIA, VICOMTECH, NAITEC, etc. always trying to strengthen the Group and improve Sustainable Competitiveness. This cooperative work contributes to the improvement of existing products, development of new products, and cutting-edge solutions in all the business areas in which we are present.

We should highlight the collaboration framework agreements with technological centres:

- **CIDETEC** in strategic projects on energy storage that enable the business development of the Irizar Group and
- **TECNALIA**: mainly on power electronics and electric powertrain projects, although there is collaboration in very diverse fields like weight reduction, self-driving vehicles, thermal management and artificial intelligence.

Both agreements will strengthen Irizar's technological development and promote competitive market advantages.



TECNALIA is a top European technological research and development centre whose mission is to transform technology into GDP to improve people's quality of life by creating business opportunities for companies. It is part of the **BRTA (Basque Research and Technology Alliance)**. It is the first Spanish private organization in contracting, participation and leadership in the **Horizon 2020 programme of the European Commission** and the second in applications for European patents.

Irizar became a sponsor of TECNALIA in 2020, increasing the level of collaboration we had had with them for several years to make it a more strategic model based in trust, collaboration and a shared technological strategy. Tecnalia's primary areas of work are the digital transformation, advanced manufacturing, the energy transition, sustainable mobility, health and the urban ecosystem.

Irizar is present in the Basque Hydrogen Corridor: BH2C



European H2 Valley
of the Year 2022
Clean Hydrogen
Partnership
European
Commission

In 2020 Irizar joined the initiative that will contribute to changing the economic and energy model to make progress towards decarbonising strategic sectors like energy, mobility, industry and services. It is a commitment to industry in the entire value chain of the hydrogen energy vector that was created in Euskadi by Petronor (Repsol Group). The Basque government represented by Arantxa Tapia, councilperson for Economic Development, Sustainability and the Environment, considers it **"key to the sustainable development of the territory"**.



The presentation of the initiative took place in February 2021 in Bilbao with the signatures of **78 participating organisations**. The council-
erson for Economic Development, Sustainability and the Environment, Arantxa Tapia, the Deputy General of Bizkaia Unai Rementeria, the Mayor of Bilbao Juan Mari Aburto, the president of the Bilbao Port Authority Ricardo Barkala, the president of Petronor Emiliano López Atxurra, and the project coordinator Jose Ignacio Zudaire attended the event.

The vocation of the Basque hydrogen corridor is to be a lever to transform the production fabric and maintain the status of industry in the Basque economy. The project unites economic, social, technological and environmental issues, among others, thanks to an investment of more than 1.1 billion Euros until 2026, and it has ambitious goals: **to create more than 1340 direct jobs and 6700 indirect jobs**.

All of that will translate into the production of 21,000 tons of renewable hydrogen annually, which will avoid the emission of 230,000 tons of CO₂ in that period, putting the focus during the first years on developing the production of renewable hydrogen, and on the infrastructures and applications needed for deploying a corridor that will mark a before and after in the Basque energy transition.

Irizar is a key participant in this initiative in the sustainable transport and mobility sector.

In 2023, we participated in both of the mobility vertical meetings of the Basque hydrogen corridor. The progress of the Irizar project was presented at the first meeting.

UITP (International Union of Public Transport)



Since 2020 we have also been members of the UITP (International Union of Public Transport), which is the International Association of Public Transport and a passionate advocate of sustainable urban mobility. Founded in 1885, with more than 135 years of history, **it is the only global network that brings together all stakeholders in public transport and all sustainable modes of transport**.

According to the UITP knowledge base, the bus is the most widely used mode of public transport in the world. With millions of daily trips, we know that there really is no sustainable mobility in our cities without getting on a bus. The bus has a long and rich history in the sector, and in the UITP where the bus operators work on the corresponding committee on important issues like maintenance, operations and development. The exchange and generation of knowledge for the entire sector is the main objective.

In Europe, UITP's main activity is to work closely with the institutions of the European Union, bringing together more than 450 urban, suburban and regional public transport operators and authorities from all member states. The UITP represents the perspective of local passenger transport services using all the sustainable modes, by road, rail or water.



As we discussed in detail in chapter 3. (about clients, passengers and citizens), in 2023 Irizar e-mobility was once again present at the **Global Public Transport Summit of the UITP (The International Association of Public Transport)** for one more edition. In addition to showing our vehicles, we shared a new vision of the market and the implementation of a new concept in transport that the Irizar Group is immersed in.

Alliances and collaboration with the environment

It is worth mentioning that Irizar belongs to:



Berrikuntzaren Euskal Agentzia
Agencia Vasca de la Innovación

- **Innobasque, the Basque Innovation Agency** We joined Innobasque in 2020 to contribute to their vision of "positioning Euskadi as a leading region in innovation". That is the objective of Euskadi (the European region in which Irizar S. Coop. is located) for which Innobasque works with a long-term aspiration that it shares with the public and private agents that make up the Basque Innovation System.

Their mission is "to promote, in collaboration with other agents, the development of innovation from its position as a singular agent of the Basque Network of Science, Technology and Innovation". In its role as singular agent, it assists the Basque Government and the organizations of the system in the design, implementation and evaluation of policies related to science, technology and innovation.

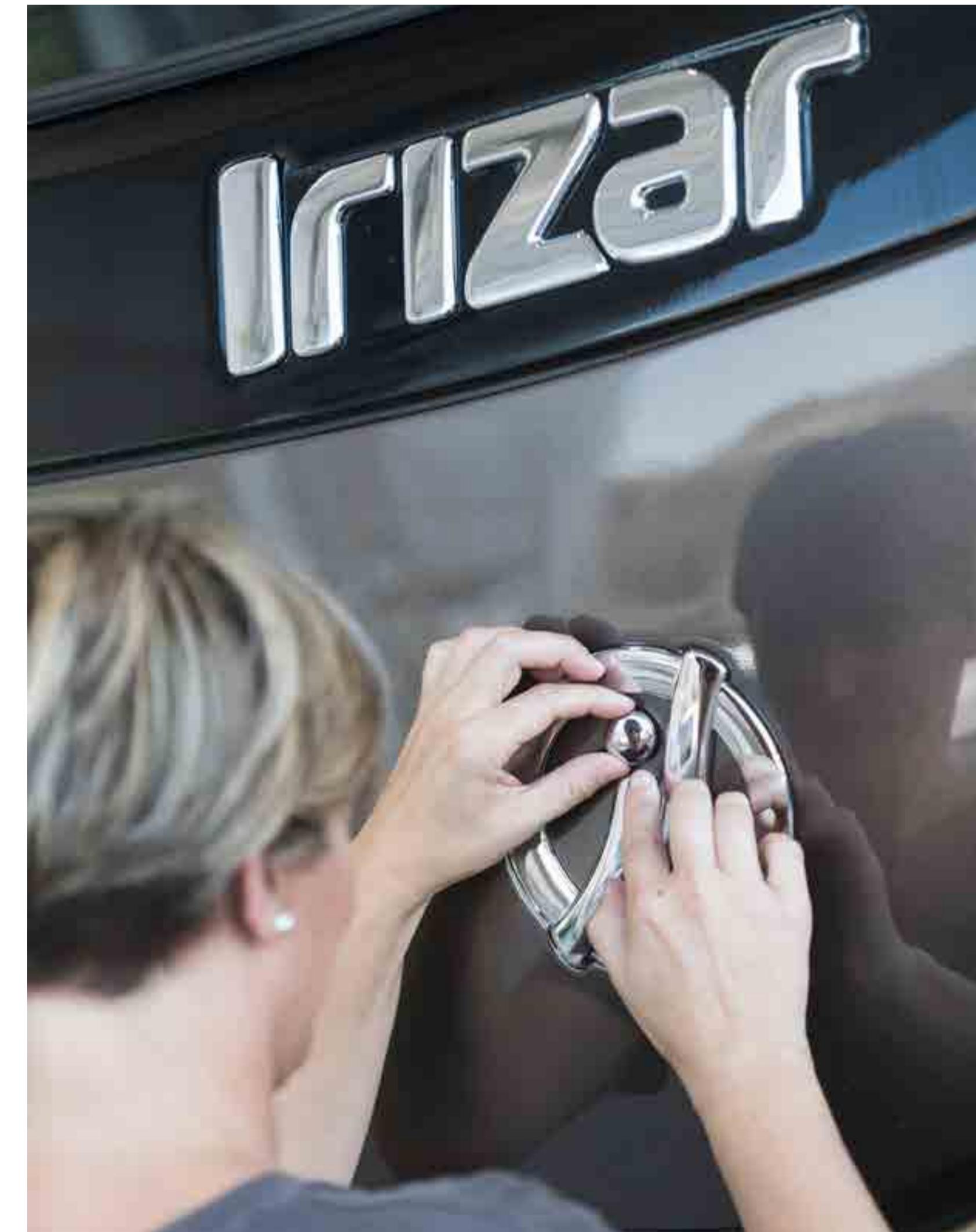
The member organisations are the real protagonists of this continual drive for innovation in the Basque Country. **We make local, national and international alliances and networks as a way to**

share experiences, provide services and gain influence and **positioning at scale**. Because of their diversity and number, the 902 member entities of Innobasque are a good representation of the Basque Science, Technology and Innovation System and they account for 63.1% of Basque R&D+i investment. Almost 85% of the member companies are SMEs, and 88.5% operate in strategic areas for the Basque Country.

Irizar is also part of the Innobasque board of directors and leads innovation strategies for the Basque Country.



- **Automotive Cluster of Euskadi - ACICAE**: is a not-for-profit business association whose mission is to improve the competitiveness of the automotive industry and enable cooperation between Basque companies so they can provide a joint response to the major challenges the industry faces. It was driven by the Basque government with the methodology of professor Michael Porter. It is considered the first automotive cluster created in Europe. Since it was created in 1993, it has evolved quickly and has contributed to making the billing of the Basque automotive industry double in the last twenty-five years. It is made up of 300 companies that invoice more than 20 billion Euros and provide jobs for more than 120,000 people around the world, 40,000 of whom are in the Basque Country.





- **The Mobility and Logistics Cluster of Euskadi:** is a private not-for-profit association. Its goal is to improve the competitiveness of its members, companies and agents in the Basque Country that work in the fields of logistics and supply chain, mobility, and infrastructures for both people and commodities. The 111 associated companies and organizations represent a turnover of 11,468 million Euros and 54,645 people around the world and allocate 397 million Euros for R&D+i.

At the petition of this cluster, in December 2022 Irizar participated with two speakers in the **2022 Basque Circular Summit**, led by the Basque government. You can see more details in the chapters about "Clients, Passengers and Citizens" and "The Environment". In 2023, and within the **ROAD TO SDG project**, we agreed to participate in 2024 to share our experience with Sustainable Competi-



- **Goierri Valley:** We are a magnet company of this alliance for the

industrial transformation of the Goierri region of Gipuzkoa (where Irizar S. Coop. is located), through the real and active collaboration of the member companies, sharing knowledge and innovating to guarantee industrial competitiveness and future sustainability for our local area. The companies included in this alliance have joint sales of 4,407 million Euros and we dedicate 3.3% of sales to R+D+I, have production plants in 16 countries and employ 8,100 workers dedicated to the sectors of fittings, mobility, lifting, energy, electric motor, transport, machine tool, and other sectors.

AERCE (Association of purchasing, contracting and procurement professionals)



You can see details in the last chapter 7 about "Society" Given that purchasing management is a fundamental element to guarantee profitability and Sustainable Competitiveness, Irizar belongs to AERCE (Spanish Association of Purchasing, Contracting and Supply Professionals). AERCE is a professional association that brings together purchasing managers for medium and large companies, and whose purpose is the promotion, dissemination, and training of techniques and the application of appropriate methodologies for proper and effective management of company purchasing, contracting and procurement.



WE CREATE VALUE FOR THE ENVIRONMENT

Contributing to the SDGs and goals of the UN 2030 Agenda:

Priority SDGs



9.4. Infrastructure modernization, clean technology



11.2. Providing access to public transport
11.6. Reduction of environmental impact in cities.



12.2. Achieving the efficient use of natural resources
12.4. Waste and chemical product management
12.5. Prevention, reduction, recycling and reuse of waste
12.6. Adoption of sustainable practices in businesses
12.8. Ensuring education for Sustainable Development
12.B. Achieving sustainable tourism



13.1. Strengthening resilience and adaptation
13.3. Improving environmental education and awareness

6



WE CREATE VALUE FOR THE ENVIRONMENT

6

6.1.

Environmental framework and priorities

- Commitment to the environment, integrating the SDGs of the 2030 Agenda

6.2.

Sustainable Products and Eco-innovation

6.3.

Environmentally responsible production

6.3.1. Efficiency in resource consumption

- Consumption of natural resources
- Consumption of chemical resources

6.3.2. We reduce waste generation and discharges

6.3.3. We minimise soil contamination

6.3.4. Committed to the Circular Economy

- Reuse
- Recycle
- Innovating in Circular Economy implementation methodology

6.4.

Management of Sustainable suppliers

6.5.

Committed to the struggle against climate change

6.5.1. Air Quality and Maximum Energy Efficiency

- Energy efficiency of the activity
- Irizar S. Coop. carbon footprint
- Irizar e-mobility carbon footprint
- First electromobility factory in Europe with completely sustainable energy

6.5.2. We promote the sustainable mobility of people

6.6.

Contribution to environmental Sustainability

6.6.1. We train and raise awareness among our staff, customers and suppliers in the environment

6.6.2. We participate in external environmental forums

6.1. Environmental framework and priorities

Our commitment to the environment dates back to 1998 when Irizar became the first European coach manufacturer to obtain **ISO 14001** certification. In 2000 we were the first major Spanish company to win the **European Quality Prize** (awarded by EFQM), whose evaluation also took into account environmental criteria (use and consumption of resources, conservation, emissions into the atmosphere, waste and recycling, recyclability of coaches, etc.).

The Irizar Group's electromobility division is, without a doubt, a clear exponent of our progress in this commitment. Irizar e-mobility likewise obtained ISO14001 certification in 2020, and is focusing its efforts on optimising consumption of raw materials and minimizing polluting substances and the impact of its vehicles on the environment.

That is why at Irizar we have evolved and increased our commitment to environmental protection and the achievement of more sustainable and efficient products and ways of working. Our continuous progress, out of our vocation to be environmental pioneers, can be seen in this Sustainability Report and previous ones.

Among the **most important principles that guide the environmental policy** of Irizar are gradually reducing emissions of CO₂ and other pollut-

ants, using environmental criteria when choosing materials for designing and manufacturing their products and improving the efficiency of the operations in our organisation, and promoting the culture and spirit of commitment to taking care of the environment, people and external collaborators.

For the Irizar Group, it is fundamental to work and focus lines of action in accordance with the interests of external interested parties (govern-

ment, clients, suppliers, competition, society at large, etc.) and, along those lines, the challenge is to make progress along the path to sustainability.

We are showing the latest version of our Environmental Policy integrated with the quality policy here. It was approved in 2023 and shows our commitment in that regard.



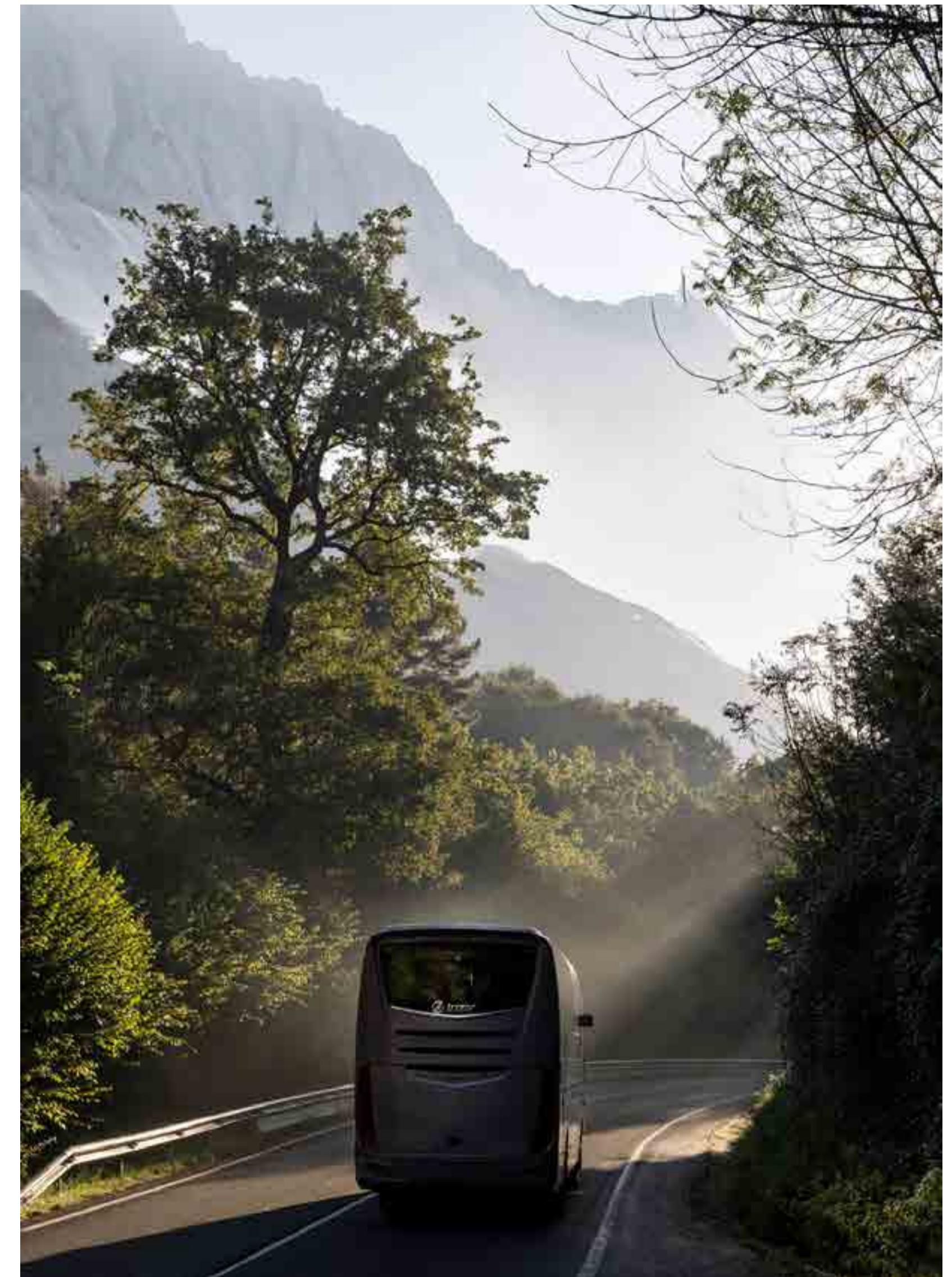
Irizar environmental and quality policy

IRIZAR, Cooperative Corporation, is a BUSINESS PROJECT BASED IN PEOPLE, with a self-management and participation system that strives for business excellence through continuously satisfying clients, people, external collaborators, society and our local area, to enable growth that generates wealth and new jobs.

They design, develop, produce and provide after-sales service for integral coaches and coach bodies on chassis of different makes.

The purpose of IRIZAR is to build client loyalty by maintaining a high level of quality of their products and services and through a deep commitment to protecting the environment and continuously improving all their production and management processes. To those ends, we are committed to:

- **Leadership and commitment by everyone** Promoting training, awareness raising, communication, leadership, participation and commitment by everyone for integrating and meeting the goals of Irizar's strategy. And all of that is based in giving the organisation a suitable framework and resources and setting goals for quality and the environment.
- **Monitoring and improving our value chain** Integrating suppliers into the procurement chain for our clients' satisfaction, customer service and reducing environmental impact inherent to our business through meeting sustainability criteria to achieve a sustainable supply chain.
- **Stakeholder participation** The participation of our clients, suppliers and the government and society at large is important to us. Our policy provides information about our activities and awareness about actions to protect the environment.
- **Required information and resources** Ensure that the management system has the information and resources it needs to meet the goals and challenges, including improving performance
- **Legal compliance** Meet all the legal requirements applicable to our business and environmental impact, as well as client demands and other requirements IRIZAR has accepted voluntarily.
- **Meeting the sustainable development goals (SDGs)** We are aware of our global responsibility for our surroundings and all the environmental and social impacts associated with our activities and products. Because of that, we have integrated those goals into our strategy and we have aligned ourselves with the 2030 Agenda.
- **Sustainable products and services** Design and manufacture in-house sustainable and eco-innovative technologies with a holistic focus to minimise environmental impact throughout the life cycle, at all times avoiding shifting adverse environmental effects to other phases of the life cycle, unless it entails a global reduction of the environmental impacts associated with the product
- **Circular Economy** Integrate and promote the reuse of surplus materials and waste in collaboration with other organisations
- **The impact of our business activities and preventing pollution** Make progress in having our impact be more neutral, focusing our efforts on minimising GHG emissions through improving energy efficiency and using renewable energies Likewise, we integrate the commitment to optimise the resources we use into the way we work, striving for efficiency and reducing the impacts associated with generating emissions, dumping and waste. We work on acquiring products and services and designing facilities and processes that positively impact performance.
- **Mobility** Innovation to reduce our environmental footprint We try hard to take on the challenges associated with the entire life cycle of our mobility.



Commitment to the environment, integrated with the SDGs of the 2030 Agenda

As we put forward in chapter 2 about Irizar and **Sustainable Competitiveness**, our commitment to the 2030 Agenda SDGs is especially evident in our impact on high-priority KPIs. We consequently decided to prioritise our sustainable value contribution to the environment.

We already discussed environmental KPIs in previous chapters.

- Our commitment to clients, passengers and citizens: four about the CLIMATE, two about RESOURCES and one EXTENDING SUSTAINABLE DEVELOPMENT
- Our commitment to our people: one about the CLIMATE and one EXTENDING SUSTAINABLE DEVELOPMENT
- Commitment to a sustainable value chain: one about the CLIMATE and one EXTENDING SUSTAINABLE DEVELOPMENT

We will focus here on KPIs that have not been discussed before or groups that affect several stakeholder groups.

A.CLIMATE: two KPIs One for reducing total GHG emissions to decarbonise our operations in our facilities (reduce scope 1 + 2 / category 1 + 2 GHG emissions) and to reduce indirect scope 3 GHG emissions (category 3 transport, 4 product use and 5 associated with the use of our vehicles by clients) Other KPI for electricity with a renewable origin

B.RESOURCES: Two KPIs for increasing valued waste and improving electrical energy efficiency in our activity centres.

F. EXTENDING SUSTAINABLE DEVELOPMENT: As in previous chapters, the KPI is also supported with our commitment to contributing to improving the Sustainability of external people and organisations (public and private).



PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE	
A. CLIMATE											
 HUMAN RIGHTS	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	3. Reduce TOTAL GHG emissions Includes: Scope 1 and 2: CATEGORY 1: Direct GHG emissions and removals CATEGORY 2: Indirect GHG emissions caused by imported energy Scope 3: CATEGORY 3: Indirect GHG emissions caused by Transport CATEGORY 4: Indirect GHG emissions caused by products Irizar uses CATEGORY 5: Indirect GHG emissions associated with the organisation's use of products	tCO ₂ eq	1,713,290	1,659,534	(-3%)			-5%	2022 - Annual	
 LABOUR	 11 SUSTAINABLE CITIES AND COMMUNITIES	4 Origin of electricity from renewable Renewable energy systems	% consumption of renewable electrical energy and/or high-efficiency cogeneration / total electricity consumption	0%	52%	100%	100%	100%	100%	2022-27 maintain	
B. RESOURCES											
 LABOUR	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	7. Waste reused (using reuse, recovery and recycling processes) <i>Sum of waste bound for waste manager and bound for our IZIR brand</i>	% weight assessed waste / Total waste generated (Tm)	53%	60%	63%	61%	>60% annual		2023	
 ENVIRONMENT	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	8. Improving electrical energy efficiency in our centres	Kwh consumed / working days / units billed tCO ₂ / working days / units billed	46.63	26.1	19.3	39.55 (5% in 4 years) 1% annual	0	0.00187	0	2025 2026-7 2022-27 maintain

BASE YEAR: year data in **blue** if shown in OBJECTIVE later

SUSTAINABILITY REPORT 2023

PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
F. EXTENDING SUSTAINABLE DEVELOPMENT										
 HUMAN RIGHTS  LABOUR  ENVIRONMENT  ANTICORRUPCIÓN	 5 GENDER EQUALITY  8 DECENT WORK AND ECONOMIC GROWTH  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  12 RESPONSIBLE CONSUMPTION AND PRODUCTION  13 CLIMATE ACTION  16 PEACE, JUSTICE AND STRONG INSTITUTIONS  SUSTAINABLE DEVELOPMENT GOALS	<p>23. Contribution to improvement in the sustainability of other external people and organisations (public and private). Irizar S. Coop. is located</p> <p><u>Sharing our knowledge of and experience with Sustainability</u> in forums and training and awareness raising activities:</p> <ul style="list-style-type: none"> • High priority stakeholders (to be specified): Clients, suppliers, distributors, etc • Group coach Companies • Other Group Companies • Students, external organisations and other people in the social environment 	no. actions / year	8	12	25	43	50	Minimum 20 actions / year	annual

 BASE YEAR: year data in **blue** if shown in OBJECTIVE later

6.2. Sustainable products and Eco-innovation

As shown in detail in chapter 3 about "Customers, Passengers and Citizens", we develop and manufacture Premium products of our own brand and technology, with a holistic approach to protecting the environment. All our efforts are aimed at minimizing the emission of pollutants and noise and the impact of our vehicles on the environment. Among other aspects we address:

- Reduction of fuel consumption and TCO (total operating cost) for the customer, thus reducing environmental impact.
- We offer pioneering solutions to the different mobility needs of the future around the world. Reducing the impact of our vehicles and eliminating greenhouse gasses and noise emissions is our priority. All this in line with the Paris Agreement and the European Green Agreement.
- In 2017 Irizar created product category rules for the entire sector for drafting environmental product declarations.
- We became the first company worldwide to obtain an Environmental Product Declaration (the international EPD system) in 2019, which was an important step forward in our progress to be a European leader and to be at the forefront of eco-innovation and eco-design for the entire life cycle of the product. In 2021, we were the first manufacturer of electric buses to draft an Environmental Product Declaration (EPD), specifically for the ie bus NG.
- As we mentioned at the beginning of chapter 3. (about Clients, Pas-

sengers and Citizens), since late 2022 and during 2023, at Irizar e-mobility we have used life cycle analysis (LCA) methodologies for the Energy 54Ah and Energy 65Ah batteries with the goal of measuring the environmental impacts associated with their entire life cycle and to work on optimising them. In addition, we share the LCA reports for the batteries with clients interested in knowing about them in detail.

- We share opinions and experiences and we have discussions with clients about their Sustainability (economic-governance, social and environmental) concerns.
- We deliver eco-driving courses and efficient driving manuals for our customers.
- We recycle the batteries from our electric vehicles and give them a second life
- We manage resources carefully.
- Safety is a priority in all our developments.
- We give all the environmental information about our coaches to our clients.



6.3. Environmentally responsible production

At Irizar not only do we think it is important to meet to the demand for more sustainable buses and coaches, we also think it is important to integrate Sustainability principles into our own way of working. In this sense, we continue to focus on:

- Eco-design and **eco-innovation**, two approaches integrated into production
- Applying the principles of the **Circular Economy from design to optimising processes to minimise consumption** and find a second life for waste and production surplus.
- We research possible improvements to reduce environmental impacts associated with production, through studies aimed at **understanding the environmental impact of our facilities and processes**: reduction of emissions, waste, competitive advantage, etc.

We measure the continuous progress of our environmental commitment by monitoring **management indicators** related to consumption of materials, waste generation, etc., maintaining our final objective of optimizing the resources we use, seeking to be efficient and reduce the generation of waste and discharges.

Since 2007, **the Imagen project** has established criteria for order and cleanliness in our facilities, with continuous analysis and monitoring from day to day, with the aim of identifying operational improvement

measures, good practices and awareness. Our challenge is none other than from the involvement of all people to guarantee quality and optimization of work resources.

Another measure we put into practice in 2016 was centred on creating specific and detailed **best-practices manuals** for every work area, improving and optimising the processes or operations we deemed critical, which included the ones with the greatest environmental impact.

At Irizar, we keep making progress in the **Circular Economy** management model as a system for using resources where eco-design, optimisation, reduction, reuse and recycling items is primary. All of that is geared towards **reducing the environmental impacts associated with production**. As we will see in more detail in section 6.3.4. the increase in demand for resources worldwide in the last century, due in part to the growth of the world population and emerging economies, has caused a large increase in the consumption of natural resources. This situation makes the current lifestyle, based basically on a linear economy, difficult to sustain. The Circular Economy proposes a paradigm shift in the use of resources and in relation to the environment: maintaining the life cycle of products and materials for as long as possible; reducing waste to a



minimum; and reintroducing resources into the production cycle, creating value when goods reach the end of their service life.

6.3.1. Efficiency in resource consumption

We pursue optimising the selection and reduction of **materials in the value chain**. To those ends, we monitor the components used in each work station and adjust needs to the orders as much as possible and minimizing excess materials that may remain in the production line.

Among the main actions that we have implemented during the last decade are those that aim to reduce and optimize the consumption of products and materials used in the vehicle manufacturing process, mainly those that could have the greatest impact on the environment. For those cases, there are specific projects with actions that require detailed monitoring.

We carry out exhaustive management and monitoring of the consumption of natural resources and of the chemical products used.

Consumption of natural resources

Our management of energy **resources (gas and electricity)**, although here we deal with the evolution of consumption, will be addressed in more detail in section "6.5.1. Air Quality and Maximum Energy Efficiency".

Consumption of Natural Resources (per coach produced)

	WATER (m ³ /coach produced)	ELECTRICAL ENERGY (kWh/coach produced)	NATURAL GAS (kWh/coach produced)
2017	9.60	4,810.74	8,207.32
2018	8.84	4,682.95	8,618.53
2019	9.87	4,698.32	8,341.00
2020^(*)	14.40	7,568.11	12,243.36
2021^(*)	12.81	8,749.70	14,415.75
2022^(*)	10.68	5,896.06	9,362.88
2023^(*)	9.88	5,011.22	8,521.57

^(*) Since 2020, unlike previous years when the indicators only showed data from the main production plant (Lezeta), data is provided for all Irizar S. Coop. production plants.

Although in 2020 and 2021 the **absolute data on water and energy consumption (electricity and natural gas)** show significant decreases compared with 2019 as a consequence of the decrease in the production rate, in 2022 and 2023 a return to pre-pandemic values could be seen.

- **Water Consumption:** Water is a scarce good and at Irizar we are aware of it, so we implement measures geared towards reducing the use of it to preserve it. It is noteworthy that the production process at Irizar has low water consumption in comparison with other companies in other sectors. The reduction in consumption is due exclusively to the drop in production: less water for cleaning structures, lower sanitary water use (showers) and for cooking.

The main actions carried out for more sustainable water use can be divided into two sections:

1. Consumption in the production process Consumption that is periodically monitored to analyse its evolution and take the measures needed to control it. In recent years, work in this area has been strengthened with new implementations of closed circuits, purifying systems and water treatment that guarantee good water treatment of process water so it can be reused.

2. Internal Consumption Consumption by workers, company dining areas, cleaning facilities and similar procedures. Irizar has done awareness raising campaigns for staff to try to reduce that consumption and minimise its impact.

- **Electrical energy consumption:** The relative decrease in 2023 testify to the actions put into practice since 2013 for controlling consumption that are set forth in the energy efficiency action plan, which are discussed in detail in the energy efficiency section.

- **Natural gas consumption:** It can be seen that, continuing the trend from 2022, in 2023 there was a 9% decrease in gas consumption per coach invoiced in comparison with the previous year, due to the recovery of production of manufactured vehicles. It should be noted that that decrease is largely due to the measures applied in the last year for monitoring consumption, which let us improve our energy efficiency.

Actions carried out that affect electricity and natural gas:

- In 2021, energy qualification studies were done for the offices in all the plants.
- We have been monitoring the energy consumption of the main facilities since the start of 2021.
- In 2021, we analysed and corrected how the readings work and we placed metres in areas where we saw they were needed.
- In 2022 a control and detection panel was put into action in the entrance booth of the facilities that lets us detect and correct deviations in gas and electricity consumption early.
- In 2023, work was done on reducing uncertainty about the data, and on finding new points for improvement.

Consumption of chemical resources

This consumption is exclusive to the plant (Lezeta), which is where the main painting activity associated with this indicator is done.

Consumption of chemical resources (per surface area treated)

	Paint consumption/m ² Surface area treated (kg/m ²)	Solvent consumption/m ² Surface area treated (kg/m ²)
2017	0.479	0.139
2018	0.510	0.158
2019	0.461	0.131
2020	0.582	0.169
2021	0.571	0.152
2022	0.432	0.157
2023	0.411	0.169

- **Paint consumption:** Even though in 2020 the absolute data showed a significant decrease in terms of consumption due to the effects of the pandemic, paint consumption per square metre of surface treated increased by 26.25%. That increase occurred despite the work done on implementing the paint management plan, due to different productivity factors mentioned above (primarily a decrease in high-end coaches, a decrease in integral coaches, etc.).

In 2023, that consumption was reduced by 4.82%, thanks to the work done in implementing the paint management plan, as well as the various production factors mentioned above (a decrease in large coaches and specifications with a high paint content, etc.).

- **Solvent Consumption:** Solvent consumption by painted surface increased 7.19% in 2023. That is due to several factors. On one hand, there was an increase in production, and the kind of vehicles manufactured were primarily for long-distance and it was due to the specifications chosen by clients. On the other hand, there was a significant decrease of solvents in waste.

Likewise, we believe that the Solvent Reduction Plans started in 2007 are having positive and remarkable results and is directly contributing to **reducing the emission of volatile organic compounds**, such as:

- Formulating and developing new water-based technologies
- Replacing products with other ones that have less solvent content
- Establishing a product control methodology
- Optimising production processes
- Continuous audits by the supplier and Irizar
- Continuous training of workers

- Investments aimed at improving the facilities
- Renewing work equipment with more efficient equipment
- etc.

6.3.2. We reduced the generation of waste and discharges

Applying measures that guarantee more efficient consumption also enables us to act in reducing waste. To achieve this, we consider it essential to understand the materials used in each process of the manufacturing chain and, thus, to adjust the quantities of materials that we use during the production processes. In this vein, the environment area works with purchases, supplies and warehouse, to reduce the amount of packaging or commit to returnable materials.

The Image Project also manages surplus production and surplus or obsolete materials, by reintroducing them into the process or looking for another alternative way out, through exhaustive control of all the material found in the production lines. To achieve that, periodic audits are carried out for critical materials, and surplus materials are reallocated in carts on each line, etc.

For example, in 2020 we started supplying bits for work tools with a vending machine. That supply system still lets us reduce annual consumption of bits and the derived waste.

In 2022, new waste was included in the collection systems in the various centres, in line with the ambitious goal set by Irizar to send zero waste to the landfill. Among the most notable waste are film, organic and urban packaging.

Waste Generation (kg / coach produced)

	Hazardous waste	Non-hazardous Waste
2017	306.75	1,157.06
2018	320.52	1,020.62
2019	352.36	998.90
2020^(*)	433.92	1,296.30
2021^(*)	361.11	1,369.99
2022^(*)	320.12	1,148.97
2023^(*)	328.49	1,168.65

^(*) Since 2020, unlike previous years when the indicators only showed data from the main production plant (Lezeta), data is provided for all Irizar S. Coop. production plants.



Absolute data for the **generation of hazardous and non-hazardous waste** show a recovery of trends prior to the pandemic, although a decrease in the **relative indicators per coach** can be seen, due to diverse improvement actions implemented.

- **Hazardous Waste Generation:** In 2023, the generation of hazardous waste increased 32% in absolute figures. Nevertheless, a very slight increase of 2% of the ratio of hazardous waste generation per coach was recorded, going from 320.12 kg of hazardous waste/coach in 2022 to 328.49 kg of hazardous waste/coach in 2023.

The data makes it possible to show a stable trend of waste generation, and it shows the continuous improvement in waste segregation, as well as other improvement measures that have been implemented.

- **Non-hazardous waste generation:** In 2023, the same as in the hazardous waste section, the absolute data shows an increase in the amount of non-hazardous waste generated. However, the generation of non-hazardous waste per coach only increased slightly by 2%, going from 1,148.97 kg/coach in 2022 to 1,168.65 in 2023.

It should be highlighted that we keep working on the environmental management plan and doing various Circular Economy projects and collaborations with other organisations to optimise the supply, storage and use of materials in production, find alternatives to dumping waste materials in a landfill, and improve the separation of hazardous and non-hazardous waste that is generated and collected directly in the plant.

In addition to the waste generated per coach, it is important to mention that the percentage of reused waste is still the majority, with figures above 60%, and whose evolution can be seen in the corresponding KPI at the beginning of this chapter.

We are also constantly promoting the Circular Economy and we collaborate with chassis manufacturing brands (Mercedes, Scania, MAN, etc.), and we return disassembled parts to them so they can be reused. It is very notable because of the large volume of parts, the complexity of their production and high value. And because it is a clear example of our application of the Circular Economy to the supply chain. In 2023, 32.78 Tn of metal and plastic parts were disassembled and returned to suppliers, which is the equivalent of avoiding emissions of 697.48 kg of CO₂.

Improvements in discharges: Irizar has invested in the best technology available (BTA) for treating water before dumping it, and doing periodic monitoring of water quality through monitoring organisms (OCAs). Likewise, they do ongoing awareness raising campaigns for reducing consumption and discharge.

6.3.3. We minimize soil contamination

At Irizar, we have identified points of risk for soil contamination in the production area, and we have adopted specific control and prevention measures to minimise or even eliminate risk.

Likewise, in accordance with the commitment to continuous improvement, innovations and alternatives offered by the market for the inclusion of new measures in the annual action plan are reviewed and studied annually.

Among the most notable measures is using a *superfloor* ground treatment. The treatment makes it possible to close the pores on the surface of the ground using a mechanical treatment, which in that way reduces its permeability and minimises the risk of pollution associated with production.

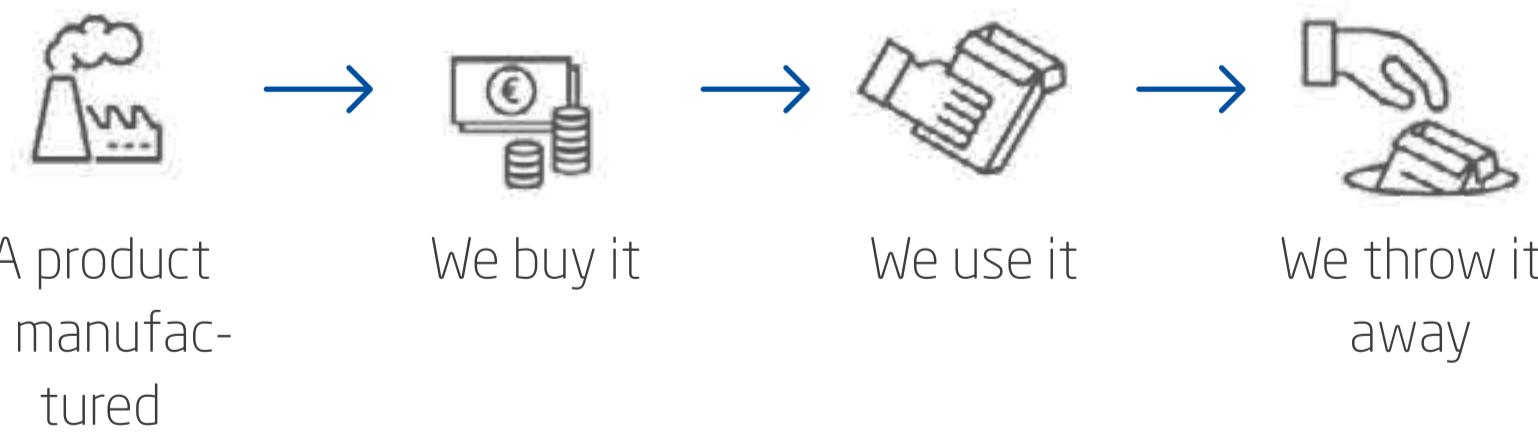


6.3.4. Committed to the Circular Economy

The Circular Economy is a model that prioritizes the use of resources and the reduction of raw materials. This system thus becomes an alternative to the current extraction, production, consumption and disposal model – the linear economic model. It proposes a paradigm shift in the use of resources and in relation to the environment: maintaining the life cycle of products and materials for as long as possible; reducing waste to a minimum; and reintroducing resources into the production cycle, seeking a second life for waste and surplus production.

The **7Rs** concept, where products are designed to be reused, is needed for that.

Linear economy



Circular economy



In the previous sections we discussed eco-innovation (redesign) and reducing consumption and waste. In chapter 3. (dedicated to our customers, passengers and citizens), we talk in more detail about: eco-innovation (we consider environmental factors as a further criterion when making decisions in the design process of our products), reducing, recovering and recycling batteries. In chapter 5. (about our external partners, supply chain and alliances) we also discussed repairs.

We can highlight two other lines of work in this section: reuse and recycling

Reuse

We try to find a second life for discarded items that cannot be reintroduced into the production chain at the plant itself. Products, like leftover LED strips that cannot be used in new coaches, have been reused for LED lighting in new rooms, and with discarded seats we have created new seating in the meeting rooms.

Following along those lines of reuse, in 2020 a “**2nd hand**” space was created, where surplus production material is left (fabric, rugs, etc.), so the workers can reuse it for other uses outside Irizar. Since it was created, new surplus materials have been added to the space, which is very popular among people at Irizar.

As we mentioned above, after the first contacts in 2021, several meetings have been held with the **chassis manufacturers** to jointly analyse the possibility of returning chassis parts so they can be reused. In 2023, communications were activated with Scania and MAN. For the time being, there are three manufacturers with whom we have made progress along these lines.

Several items have been added to the **web Recircular** platform (www.recircular.net), so it can be sold or donated, promoting reusing equipment etc. that is not usable by Irizar. Likewise, several meetings have been held for potential collaborations for more specific valorisation projects.

Recycle

Since 2017, we have led or participated in many Circular Economy projects in collaboration with other organisations. We will highlight the most representative ones and all the ones still under way here.

At the Irizar Group we are convinced of the benefits of knowing how to integrate the **Circular Economy concept internally and in close collaboration with other organizations**. To that end, we have undertaken several projects in collaboration with other associations and bodies:

- **The creation of Izir - Irizar's Circular Economy brand:** At the end of 2019, Irizar's own brand, Izir, was created, for products created from surplus production. The Izir project (Irizar Zirkularra) has the main mission of the promotion of the commitment of all Irizar people in aspects of environmental, social and economic Sustainability, and specifically, the Circular Economy.



The innovativeness of the project lies in how it includes the element of social commitment. In collaboration with the **EMAU** foundation, a non-profit organization dedicated to various social and environmental projects, a line of merchandising products is being created from textile waste from the factory.

Textile remnants from making the seats or interior linings are collected separately and sent to **Eko-Center**, which is a textiles workshop that employs people at risk of social exclusion where merchandising items are created with the **Izir** brand.

In 2020, we took a step further in this area, by designing the catalogue of products for merchandising, as well as another range of products aimed at protecting parts for various production processes.

Every year new materials are included in the Izir project, which lets us reduce waste by more than 50,000 kg every year. In 2023 work was continued on defining products and prototyping new samples to make new mer-

chandising products with the brand. An example of that was in 2023 when Irizar started new collaborations with **Ekomodo** on designing and creating new Izir items for the merchandising catalogue and internal Irizar use.

In 2023, with the goal of giving the Izir brand greater visibility among clients and entities in the sector, a giant step was taken by creating an exclusive environmental Sustainability space at the **Busworld** fair, where in addition to being able to see several sustainability projects and collaborations done by Irizar over the years on touch screens, several Izir brand items were displayed. Likewise, the stand at the fair was redesigned, taking new sustainability criteria into account, like using recycled materials that can be reused for later fairs. All of that can also be seen in chapter 3 about clients, passengers and citizens.

Irizar received several external acknowledgements in 2020 related with Izir, and they continue making a large impact in the media, where Irizar has been positioned as an industry leader in circularity.



Other projects we have collaborated on recently

- **BIRSORTU Project** - Collaboration with the **EMAÚS and HIK-Hasi foundations**: In addition to the Circular Economy brand itself, we continue collaborating on this project with EMAUS and the HIK-HASI association. Waste derived from production is used and donated to partner educational centres, so that children can experiment and create with them. There are currently collaborations with pre-school and primary school students, but the goal is to also expand it to secondary education and professional training. This is where Irizar's waste is considered to have more relevance, especially in subjects related to technology and industry.

In June 2021, **CIPP Don Bosco LHII** joined the project, for experimenting among the education community, making material discarded by the company available to students, promoting the Circular Economy at the same time.

- Collaboration with **UGLE** (Alto Urola Vocational Training School), a post-compulsory social initiative education centre. Irizar continues to donate materials for reuse by students at the UGLE facilities: different work tables and shelves, which are no longer used by Irizar and go to UGLE for a second life.
- Collaboration with **Fanny Alonso, sustainable fashion** designer and creator of cultural projects, since 2020 The waste donated by Irizar becomes raw material, for example:
 - Textiles from roof surplus, bus parts and seats, etc.
 - LED strips discarded due to defects
 - Scraps of smooth wood and wood covered in scrap cloth from cuts

Two projects got under way in 2021:

- a. The "Women of Cotton" exhibition project which continued in 2022
- b. Clothing collection project at the **#gkgreenfashion** autumn-winter fashion show organised by the Environmental Department of the regional government of Gipuzkoa



- Collaboration with **TECNUN-University of Navarre** with two projects:
 - a. **Circular Market** Since 2019, we have been collaborating on developing and starting up this platform for selling or donating unused items. Circular Market is a collaborative platform to connect companies, with the aim of helping them create value in their operations. It lets the waste or by-products of one organisation become raw materials for another one, in addition to users being able to contact each other to make group purchases, and share resources and services. It facilitates lowering environmental impacts, significant cost and energy savings, and ability to create new jobs and business opportunities. www.circularmarket.es
Irizar collaborates with this new platform by handing unused products, like concrete blocks, scraps of rubber, carpet remains, polyester scraps, etc.
 - b. **Sarea** See details in section 6.6.3.
- **CircularTrans Project** - Collaboration with **Mondragon University** Launched in 2020 together with the University of Mondragón The main objective of the project is the creation and validation of a digital platform to guide the transition of industrial organizations towards a Circular Economy model in Gipuzkoa. CircularTrans defines a five-step process: diagnosis, results, selection of opportunities, roadmap and action plan, thus defining a process of continuous improvement. The **INMOIN Circular** project is the second phase of this project, which Irizar also collaborated on in 2023.
- **FOOTPLASTIC Project**: In 2021 Irizar joined this project along with Sarenet, Kaytek, Birziplastic and MIK-Mondragon for developing an

IOT and blockchain platform for monitoring, evaluating and predicting plastic leaks in corporate value chains. The goal is to develop a technological solution to monitor, calculate, analyse and predict micro and macro plastic leaks in product life cycles or at a corporate level. We think this is highly relevant for plastic managers/vaporizers. The project ended for Irizar, and opened a new line of collaboration with Birziplastic for new plastic recycling projects.

- **Biziberritu Proietkua /Resuscitation Project** In 2021, Irizar, in conjunction with Hik-Hasi and Mondragon Unibertsitatea, started this project, which ended in 2022. Its main goal was to carry through the idea of the book "Go deep into experimentation, revitalize" and provide opportunities to go deep into experimentation and make different materials available to people and focus on experiences. To do that, the lines below were followed:
 - a. Relationships were made with various companies in relation to surplus materials.
 - b. Surplus materials were collected and made available to people and schools.
 - c. It was adapted to the needs of schools and a response was sought.
 - d. Training, ideas and experiences were proposed.<https://www.youtube.com/watch?v=W-3IQNsewP8>

- **Igartubeitia Museoa and Kotoi - European Heritage Days** In 2023, we collaborated on the European Heritage Days, which focused on Sustainability. We also participated in the "FROM WHERE AND TO WHERE" (DE DÓNDE Y HACIA DÓNDE) exhibition that brought value to the heritage power of Igartubeitia and Sustainability, creating a dialogue about our commitment to waste reduction. It had pieces made by the sustainable brand Kotoi, who reuse waste textiles from Irizar to

make us reconsider our past, present and future of Sustainability actions. Several sewing workshops for adults and children where items were made using surplus textiles from Irizar's production were held in the framework of this project. People were informed about concepts like the Circular Economy and Sustainability, etc. through those workshops.



- **Restorable - Maialen Porro** Maialen Porro is a designer who we collaborated with on her fine arts thesis project called "RESTORABLE" (REHABILITABLE). It was a project that worked on fashion pattern design through textiles from a sculptural point of view. Irizar donated surplus textiles from their process of manufacturing roof linings for the project.

In addition to the projects in collaboration with other Irizar S. Coop. organisations discussed above, for **Irizar e-mobility** we can highlight:

- In 2020 they started their collaboration with the **Emaús** social foundation with the goal of giving a second life to waste generated during the vehicle manufacturing process. For 2023 we can highlight that a second life was given to window packaging, which was used as shelving in the solidarity shop Emaús opened in Hernani.



Innovating in Circular Economy implementation methodology

We also made progress in innovative projects in collaboration to facilitate Circular Economy methodology and techniques in organisations.

- **INMOIN Circular:** This is a project financed by the Department of Economic Promotion, Tourism and Rural Areas of the regional government of Gipuzkoa together with the collaboration of Mondragón Unibertsitatea and the clusters of: Moility and logistics, Aclima-Medio Ambiente and GAIA-Knowledge and technology industries

The main goal of the project was to research how to develop a model of indicators that makes it possible to integrate the Circular Economy (CE) into an organisation and areas or departments of an organisation (management, sales, financial, marketing, product/service development and R&D, production, purchasing and supply, SAT, IT and general services), at the same time that it deals with the relationship with the sustainable development goals (SDGs).

In 2022, 123 indicators were identified which have been related with CE strategies and solutions, life cycle and departments to be able to identify and cover the needs organisations may have.

In addition, a new model of indicators was created in 2023 to be able to meet all the needs of organisations with an emphasis on all the functional areas being able to work aspects of the CE. Irizar analysed and incorporated several of those indicators for monitoring their environmental goals.

- **Hazitek Sustainability - Indicators** We collaborated with other companies on the HAZITEK 2021 "Life Cycle Sustainability Assessment service" project for developing a service that can perform integral

Sustainability evaluations of products and services of companies throughout their entire life cycle from an environmental, economic and social point of view. In parallel, creating a certification service, where that service could be certified and accredited by third parties, was planned for 2023. Work is still being done on developing that service.

- No visits were made to managers in 2021 due to the Covid-19 restrictions. We started doing visits again in 2022.
- In 2022, questionnaires about environmental behaviour were sent to Ecoiruña and Bildu S.L. hazardous waste managers. The results will be taken into account when planning new improvement actions.
- In 2023, the questionnaire was sent to service companies with an environmental impact (as discussed in chapter 5 about external collaborators, supply chain and alliances), and to companies in the Irizar Group.

6.4. Management of Sustainable suppliers

The enormous importance we give to managing sustainable suppliers at Irizar has already been shown in detail in chapter 5 about external collaborators, the supply chain and alliances - Sustainable Supply Chain:

- Sustainability requirements for our suppliers, including environmental requirements.
- Battery cell supply
- Environmental behaviour questionnaire

The purchasing team is promoting the use of raw materials from sustainable origins, with little environmental impact.

In addition, the environment area participates in environmental audits of suppliers.

- In 2020 the visit to the Urkiondo Ekolor facilities non-hazardous waste manager was notable to see their new facilities and processes and jointly analyse alternatives aimed at minimising dumping waste in landfills.



6.5. Committed to the struggle against climate change

The fight against climate change is the greatest challenge of the 21st century for the **health of the Earth**: glaciers are melting and forests are being depleted and the biodiversity of our planet is being destroyed. But the challenge is even greater for **people's physical and mental health**, given that one quarter of illnesses in the world are caused by risks related with the environment. And the effects of the changing climate directly threaten the lives and livelihoods of human beings, also causing hunger and malnutrition.

Climate change is a reality and all social, economic and public agents must join forces for its mitigation. We are in a new stage of climate transition in which the Irizar Group, from its Sustainability strategy, has also been working to contribute to the fight against Climate Change.

The limited nature of traditional energy sources, energy dependence on foreign countries and environmental impact are aspects that have made us consider plans aimed at achieving the energy efficiency of our organization. Plans that, in order to be effective and reliable, cannot address reduction alone: they must show a route towards the complete transformation by following the Sustainable Development Goals of the 2030 Agenda, **especially SDG 13**.

Our fight against Climate Change is notably discussed:

- In the sections of chapter 3 about clients, passengers and citizens related with decarbonisation (3.3., 3.4., 3.5. and 3.6.), where we see the reductions in fuel consumption and GHG emissions from **using our vehicles** depending on the kind of drive system (scope 3 downstream).
- In sections "5.3. Sustainable supply chain" and "5.5. Irizar Group level logistics optimisation" in chapter 5 about external collaborators, the supply chain and alliances: Sustainability requirements for **suppliers** and reducing CO₂ emissions from **transporting goods** (scope 3 upstream).

In this chapter, we will tackle energy efficiency and air quality management together as it is related with:

- Our **activity at our facilities** (scope 1 and 2), and
- **indirect emissions caused by transport, products we use and emissions associated with the use of our products** (scope 3).

All the actions that we will see here also highlight that the Irizar Group wishes to actively and decisively contribute to a sustainable and low-carbon future.



6.5.1. Air quality and maximum energy efficiency

Energy efficiency of the activity

Energy efficiency is based on optimizing energy consumption, through the implementation of measures that minimize energy losses and on adjusting energy consumption. Along those lines, the new European guidelines have set new goals that are, on one hand, focused on achieving reductions in energy consumption by promoting energy efficiency and, on the other hand, on reducing greenhouse gas emissions.

In recent years at Irizar, we have carried out various **actions** focused on transforming conventional forms of energy consumption with a commitment to achieving energy efficiency:

- Replacing conventional lighting with low consumption lighting,
- monitoring of our consumption,
- conducting energy audits
- installing various automation systems and devices to avoid unnecessary consumption in our facilities.
- carrying out various energy studies and analyses that allow us to identify facilities, equipment and processes in which energy consumption can be optimized.

With the goal of grouping together all the actions aligned with energy efficiency, with an external energy manager in 2021 Irizar started im-

plementing an uncertified **Energy Management System** that lets them monitor consumption in detail, minimise inefficient use and implement improvement actions. All the information related with energy management and the actions carried out or planned are centralised with the system.

All the improvements in energy consumption have lead to a **reduction in total gas and electricity consumption and, consequently, the CO₂ emissions associated with them**, which we expect to continue in coming years.

The evolution of gas and electricity consumption can be seen in section "6.3.1 Resource consumption efficiency".

We are firmly committed to investing in the **Best Available Technologies** that allow us to make our commitment to contributing to the fight against Climate Change into a reality, thus participating actively in the energy transformation.



An important point to highlight is that, **since June 2021, the origin of the electrical energy supplied to all Irizar S. Coop. and Irizar e-mobility centres is 100% renewable and/or high efficiency cogeneration**. The impact of that measure on CO₂ emissions can already be seen in the corporate carbon footprint for year 2021.

Irizar S. Coop. carbon footprint

In 2020 and 2021 we did the calculation and verification of the carbon footprint for the business activities of Irizar S. Coop. according to the **ISO14064-1:2015** standard for our **main production plant** (Lezeta). Later we recorded our Carbon Footprint at MITECO (Ministry for the Ecological Transition and the Demographic Challenge).

That let us know and put improvements plans into action to reduce the scope 1 and 2 GHG (greenhouse gas) emissions:

- Scope 1: Direct GHG emissions from sources that belong to or are controlled by the organisation itself
- Scope 2: Indirect GHG emissions associated with generating electricity acquired and consumed by our organisation

In our 2020 and 2021 Sustainability Reports we included the evolution of scope 1 and 2 emission for our main plant (Lezeta).

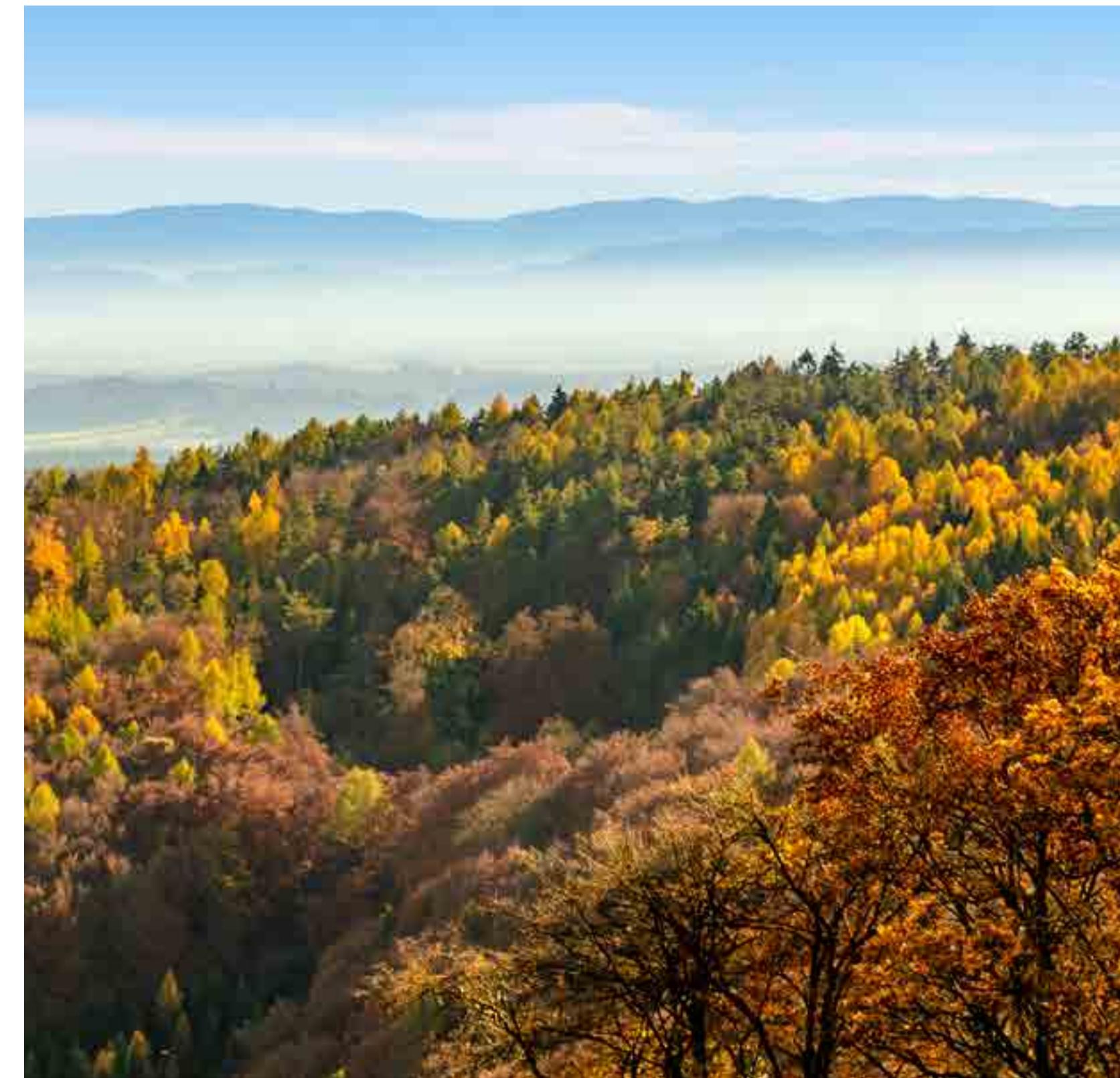
In 2022, we did a study and certification of the energy qualification of **all of Irizar's non-production facilities** and made an action plan to improve efficiency.

Like in 2022, in 2023 we did the calculation and external verification of the Irizar carbon footprint according to the **ISO14064-1:2019** standard, including all the categories in its scope:

- categories 1 and 2 (scopes 1 and 2) for all our facilities,

- all the categories (3, 4, 5 and 6) associated with scope 3 indirect emissions

The change in the standard used gives us an even greater scope for measuring the impact of our GHG emissions, and it lets us evaluate the benefits that are the consequence of the actions implemented better.





Later we recorded our Carbon Footprint at MITECO (Ministry for the Ecological Transition and the Demographic Challenge).



The results of the current calculation for our weighted relative carbon footprint are presented below. For the calculation we used weighted

data relative to vehicles billed for categories 1, 2, 3 and 4 and vehicles on the road (category 5), which made it possible to obtain the total relative carbon footprint for 2021 and 2022. At Irizar we understand that relativised data for coaches is more representative than absolute emissions (yearly totals). Based on that, we will evaluate the evolution of its impact and we will also review the goals for **KPI 13 - Reducing total GHG emissions**, which was discussed in previous chapters.

Classification of emissions	Weighted relative carbon footprint tCO ₂ eq 2021	Weighted relative carbon footprint tCO ₂ eq 2022
Direct Emissions	0.11	0.15
Category 1: Direct GHG emissions and removals	0.11	0.15
Indirect Emissions	100.18	98.31
Category 2: Indirect GHG emissions caused by imported energy	0.04	0.03
Category 3: Indirect GHG emissions caused by transport	0.14	0.30
Category 4: Indirect GHG emissions caused by products the organisation uses	0.37	0.90
Category 5: Indirect GHG emissions associated with the organisation's use of products	99.63	97.07
Total Irizar S. Coop. Carbon Footprint	100.29	98.46

With the implementation of this Carbon Footprint certification, and taking 2021 as the base year, in 2022 we redesigned an ambitious **2022-2025 Action Plan** for the gradual reduction of energy consumption and the reduction of GHG gas emissions, associated with a reduction target for the first period, establishing a series of lines of action that will be fulfilled throughout this cycle. The 2022 carbon footprint data, which was calculated and verified in 2023, let us re-evaluate our focus and keep reducing the impact of our emissions.

The comparison of the relative data considered for GHG emissions in 2021 and 2022 is positive, because it shows a **total reduction in GHG emissions in 2022 by 2% compared with 2021**.

That is a consequence of:

- **Category 5**, whose importance in regards to the total carbon footprint reached 98.6% of the impact. It is the category that includes a **3% decrease in emissions**. That decrease in GHG emissions in the use of our coaches is due to improvements in the efficiency of our coaches. Consequently, in 2022 we continued working along those lines with the development of new more sustainable models, like the lightened i4 which was being sold in 2022.
- The evolution of **category 2** shows a 25% reduction of GHG emissions as a consequence of the electrical energy used in 2022 being 100% renewable, from different origins (wind, hydraulic and high-efficiency co-generation).
- The data shows an increase in GHG emissions for **categories 1, 3 and 4**. That increase is directly related with the increase in production, days worked and mobility, (workers, materials logistics, visits, commercial trips, etc.), which is not shown in its totality in the GHG emissions data, but only partially.

You can see more information related with CATEGORY 3: Indirect GHG emissions caused by transport from:

- Upstream transport (materials to/from Irizar) is the section with the most weight and improvement of it is being worked on by the logistics area with haulers (road, ship and air). You can see more details in section "5.5. Irizar Group level logistics optimisation" in chapter 5 about external collaborators, the supply chain and alliances.
- Although it is far from the previous one, employee commutes is the second most important in this category. You can see more details in section "6.5.2. We promote the sustainable mobility of people".

Regarding CATEGORY 4: Indirect GHG emissions caused by products Irizar uses: We are evaluating strengthening Sustainability requirements for our suppliers. See details in section "5.3. Sustainable supply chain" in chapter 5 about external collaborators, the supply chain and alliances.

CATEGORY 5: Emissions Associated with using the organisation's products. This is where 98.6% of our emissions come from, given that even though we manufacture vehicles with lower and lower emissions, we take into account the emissions made by all the vehicles we have manufactured and remain on the road. The primary strategy we use is to put more and more sustainable vehicles on the market, details about which can be seen in chapter 3. about our clients, passengers and citizens.

Irizar e-mobility carbon footprint

At the end of 2021 at Irizar we did the calculation and external verification of the carbon footprint for the business activities following the **ISO 14064-1:2015** standard in the Irizar e-mobility facilities.

That let us know and put improvements plans into action to reduce the scope 1 and 2 GHG (greenhouse gas) emissions:

- Scope 1: Direct GHG emissions from sources that belong to or are controlled by the organisation itself
- Scope 2: Indirect GHG emissions associated with generating electricity acquired and consumed by our organisation

In 2022 Irizar e-mobility also did a calculation and external verification of their carbon footprint using the **ISO14064-1:2019** standard. **Expanding the scope of** the verification to:

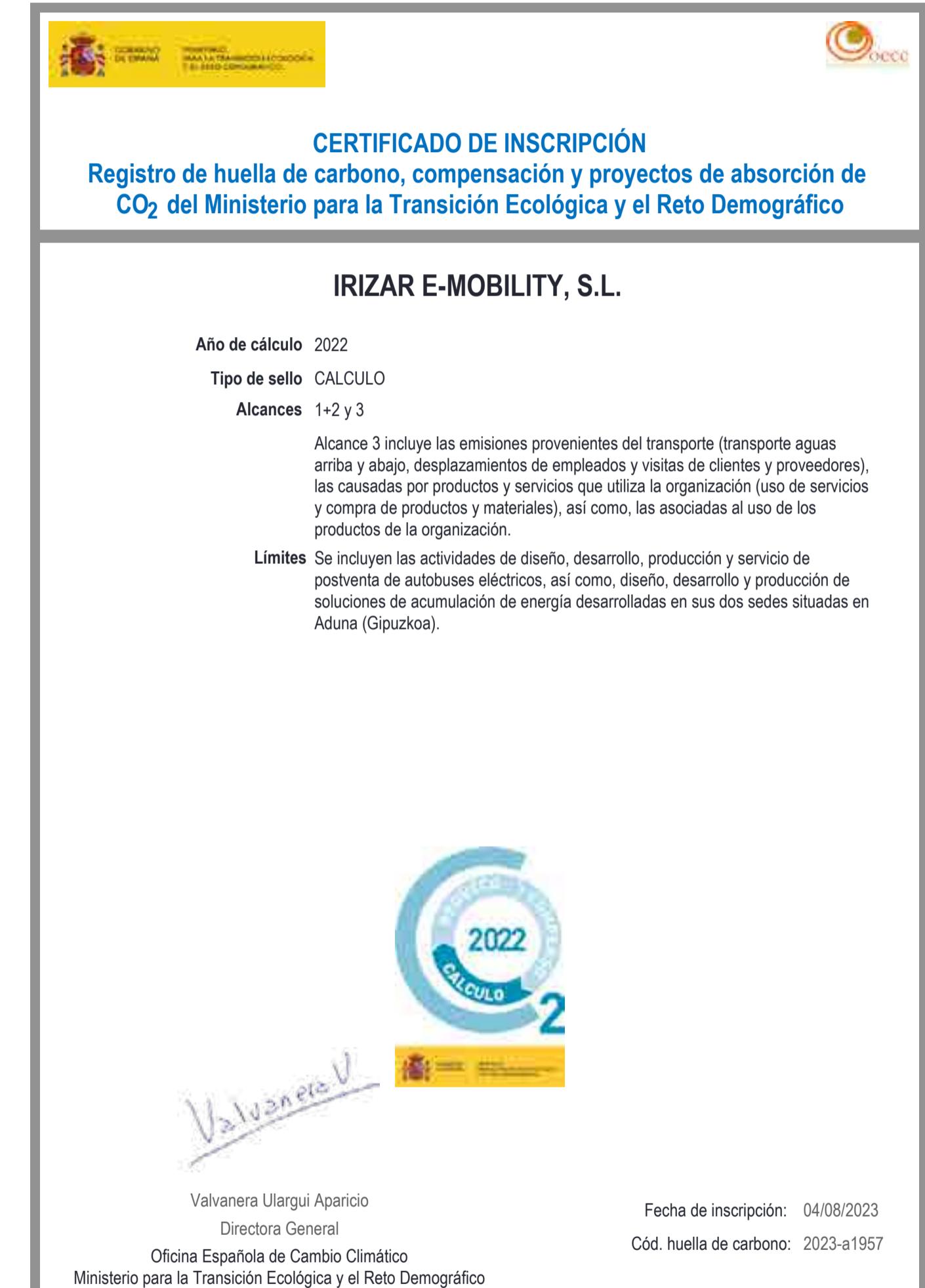
- **categories 1 and 2 (scopes 1 and 2) for all their facilities**,
- **all the categories (3, 4, 5 and 6) associated with scope 3 indirect emissions**.

The change in the standard used gives us an even greater scope for measuring the impact of our greenhouse gas emissions and it lets us evaluate the benefits that are the consequence of the actions implemented better.





They subsequently registered their carbon footprint at MITECO (Ministry for the Ecological Transition and the Demographic Challenge).



The results of the current calculation for our weighted relative carbon footprint are presented below. For the calculation we used weighted

data relative to vehicles billed for categories 1, 2, 3 and 4 and vehicles on the road (category 5), which made it possible to obtain the total relative carbon footprint for 2021 and 2022. At Irizar e-mobility we understand that relativised data for coaches is more representative than absolute emissions (yearly totals). Based on that, we will evaluate the evolution of the impact and we will set goals.

Classification of emissions	Weighted relative carbon footprint tCO ₂ eq 2021	Weighted relative carbon footprint tCO ₂ eq 2022
Direct Emissions	2.78	1.48
Category 1: Direct GHG emissions and removals	2.78	1.48
Indirect Emissions	81.01	63.25
Category 2: Indirect GHG emissions caused by imported energy	3.74	1.84
Category 3: Indirect GHG emissions caused by transport	11.06	4.37
Category 4: Indirect GHG emissions caused by products the organisation uses	58.79	44.85
Category 5: Indirect GHG emissions associated with the organisation's use of products	7.43	12.20
Total Irizar e-mobility Carbon Footprint	83.79	64.73

With the implementation of this Carbon Footprint certification, and taking 2021 as the base year, in 2022 we designed an ambitious **2022-2025 Action Plan** for the gradual reduction of energy consumption and the reduction of GHG gas emissions, associated with a reduction target for the first period, establishing a series of lines of action that will be fulfilled throughout this cycle. The 2022 Carbon Footprint data, which was calculated and verified in 2023, let us re-evaluate our focus and keep reducing the impact of our emissions.

The comparison of relative data for GHG emissions in 2021 and 2022 is very positive, because it shows a **reduction of GHG emissions by 23% in comparison with 2021**.

That is a consequence of:

- **Category 4**, whose significance in regards to the total carbon footprint is 60% of the impact, has a **relative decrease in emissions of 24%**. We are making progress towards product and services consumption with lower GHG emissions, and we will keep working with suppliers to keep lowering them.
- **Categories 1, 2 and 3** have also progressed well as a consequence of the actions done, because their GHG emissions in relative terms have gone down 47%, 51% and 60%, respectively.
- The data shows an increase in GHG emissions for **category 5**. That increase associated with the use of our buses can be improved:
 - Given that the reduction in absolute terms of that fraction of the carbon footprint depends on the electric mix with which the buses are charged, which depends on clients, actions could be done to raise awareness about using renewable energies.
 - Insofar as the relative reduction of that fraction of emissions, the area for improvement lies in improving the efficiency of the buses. Additionally, it should be noted that electric buses have a slightly smaller carbon footprint than conventional internal combustion bus-

es, so the more electric buses there are on the road the smaller the carbon footprint for transporting people will be.

The first fully sustainable energy electromobility factory in Europe

In 2018, Irizar e-mobility was launched, which was the first electromobility factory in Europe. It was designed and manufactured based on eco-sustainability concepts with a type A energy efficiency certificate, the highest in Europe. It has a warehouse heating and sanitary hot water system that uses steam from a company located on the adjoining lot.

In December 2019 it also became the first fully sustainable energy electromobility factory in Europe, thanks to the commissioning of the largest photovoltaic solar park in the Basque Country (**EKIAN**), where Irizar is one of the largest investors with 3 megawatts purchased. This is one more example of the importance that we give to the establishment of Alliances with other entities, as we have already addressed in other chapters of this Sustainability Report.

The EKIAN solar park is a public private initiative promoted by the Basque Energy Agency (EVE) and KREAN and has 25 investor companies. It consists of 67,000 latest generation solar panels, 355 watts each, generating total installed capacity of 24 MW, thus doubling the current solar power of the Basque Country. At full output it will produce about 40,000 MWh per year, i.e. electricity equivalent to the electrical consumption of 15,000 families in one year and will prevent the emission of about 14,600 tons of CO₂ if that energy were produced by other fossil-based energy sources.

In 2023, Irizar e-mobility's participation in EKIAN produced 2,466,610 kWh, which is 102% of the energy that, in turn, Irizar e-mobility consumed at their production plant in 2023.



6.5.2. We promote the sustainable mobility of people

In addition to our commitment to sustainable mobility through our products (as we already saw in chapters 2 and 3, customers, passengers and citizens), we also promote applying these principles in our own organization. We created a **sustainable mobility plan** to promote best practices in transporting people that we are using at Irizar, like using collective transport and other more sustainable means (thus reducing scope 3 category 3 upstream transport GHG emissions).

In 2019, agreements with bicycle supply companies to make **subsidized electric bicycles** available to Irizar people at very competitive prices materialised. In 2019 we also started the **IRIKLETA project** where we adapted our parking facilities and loading areas for electric bicycles with solar power generation.

In 2021, we participated in several sessions of the Mobility and Logistics Cluster of Euskadi about "Workplace Commuting Plans"



We reviewed and updated the **work mobility plan for people at Irizar in 2022**. Surveys were done related with the mode of transport used by workers that, in conjunction with other information provided by diverse areas at Irizar, made it possible to update the plan and plan future actions. Among the most notable actions in 2023 is the creation of bicycle parking at the Olaberria plant, and the analysis of the technical and economic viability of collective or shared transport alternatives, whose conclusions will drive new actions in 2024.

6.6. Contribution to environmental Sustainability

At Irizar we are convinced that we must continue to advance to achieve a world that is more sustainable and respectful of our environment as the main guarantee for future generations. It necessarily involves a

change of mentality in our current forms of consumption. Hence, in addition to the continuous training of people in the environmental area, we give special importance to the development of training and awareness-raising campaigns, both internally and externally.

6.6.1. We train and raise awareness for people, clients and suppliers about the Environment

People

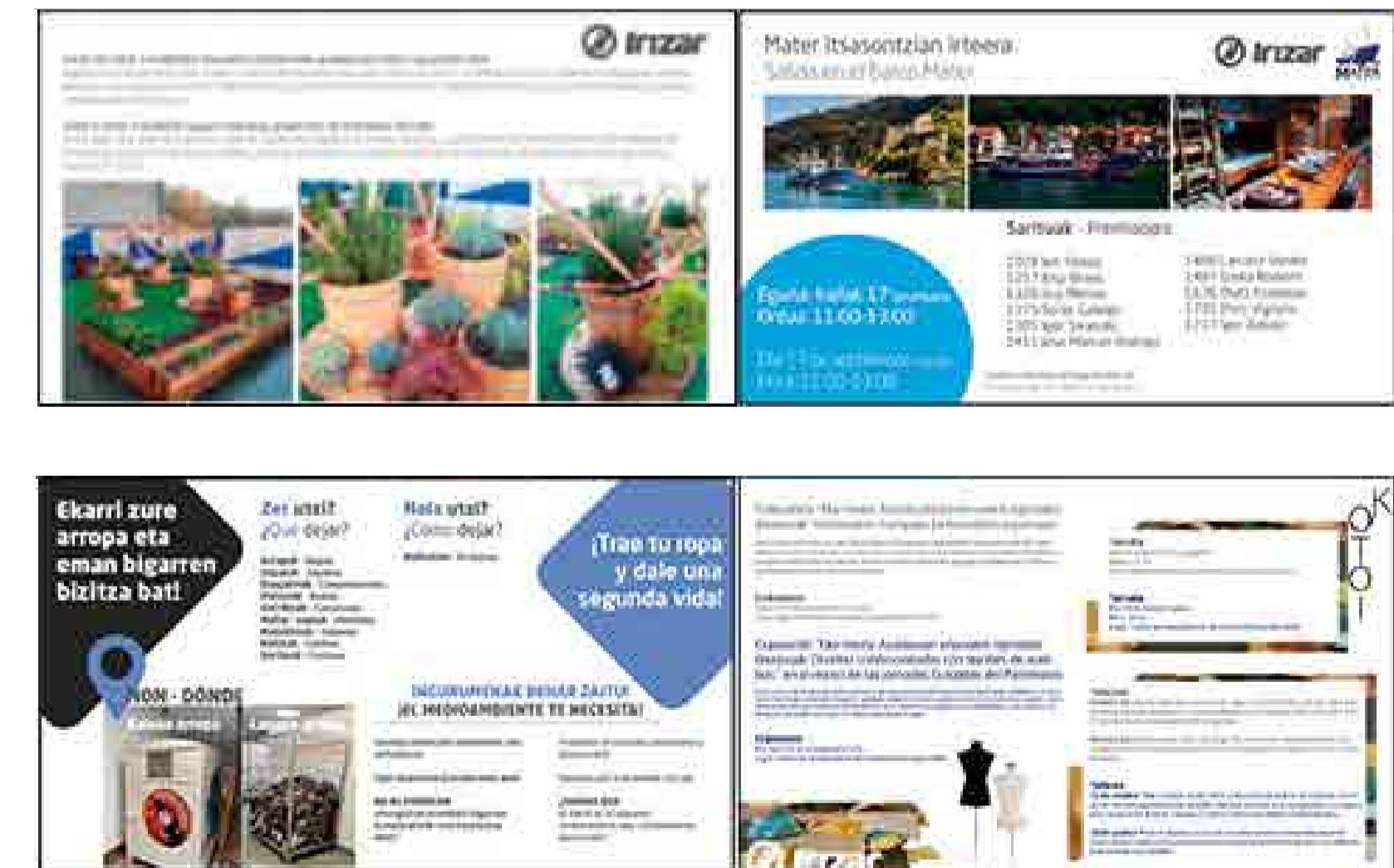
- We periodically hold training and awareness raising sessions aimed at our workers about sustainable mobility that are promoted by EVE (Basque energy agency) and are centred around efficient driving.
- All new people who join our organization are provided with an Efficient Driving Manual, inviting them to play an active part in our commitment to sustainable mobility.
- In 2022 we held training days for the **commercial area** about new laws and to inform them about the main lines of action in the area of the environment, which will result in a better transfer of environmental information from Irizar to our clients and institutions.

Every year, we work on several awareness raising campaigns to keep underlining the importance of circular production and economy. Several of the campaigns that were brought to everybody at Irizar S. Coop. are listed below. As an integral part of our Circular Economy project, internal awareness campaigns are conducted for all Irizar people with the

aim of optimizing sorted waste collection as much as possible so that landfill disposal is minimized.

- In 2022 we also did a personal clothing collection, where we encouraged everyone to bring clothes they no longer used so they could be given a second life.
- As we set forth in section 6.3.4. about the Circular Economy, Irizar also did a campaign to use surplus wood from production.
- There was an outing on the Mater boat to collect waste at sea. We are aware of the importance it has, because according to the United Nations between 19 and 23 million tons (approximately equivalent to the weight of 2200 Eiffel towers together) of plastic waste ends up in lakes, rivers and seas every year.

2022



2023



At **Irizar e-mobility**, the two internal awareness raising campaigns that were done in 2023 should be highlighted:

- Waste: A campaign to remind people and raise awareness about the importance of minimising waste and correctly separating it, giving thanks for the progress made. It was shown on the screens for a week.
- Carbon Footprint: A notification to publicise that we calculate our carbon footprint and register it with MITECO, alongside tips for reducing it. It was also shown on the screens for a week.

Irizar e-mobility

Donazioari esker isuri gabeko 2.335,04 kg CO₂ eq no emitidos con la donación

UGLEri Dragoi gelako altzari guztien donazioa

La donación de todos los muebles de la sala Dragón a UGLE

Irizar e-mobility

Recuerda que es importante minimizar la cantidad de residuos así como separarlos correctamente depositando cada uno de ellos en el contenedor apropiado, según se te indique en la formación de acogida.

Zure laguntzari esker 2022an...

Gracias a tu colaboración en 2022...

Irizar e-mobility

Huella de carbono

En Irizar e-mobility hemos calculado y auditado la huella de carbono de nuestra actividad y la hemos inscrito en el Registro de Huella de Carbono del MITECO. Este cálculo incluye los Gases de Efecto Invernadero (GEI) emitidos en estas 5 categorías:

Emissions DIRECTAS: Quema de gas natural para calentar las cabinas de pintura	Emissions INDIRECTAS por energía importada: El vapor de Ekorre para climatizar la planta	Emissions INDIRECTAS por transporte: Logística de materiales, trayectos desde casa al trabajo, transporte de autobuses a nuestros clientes	Emissions INDIRECTAS compra de productos, materiales y servicios: Acero, celdas de baterías o gestión de residuos	Emissions INDIRECTAS por uso de nuestros autobuses: Por parte de nuestros clientes
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Tú también puedes ayudar a reducir la huella de carbono

- Usa el transporte público y la bicicleta
- Comparte los viajes en coche
- Apaga los aparatos eléctricos cuando no estén en uso
- Bebe agua del grifo, evita consumir de botella
- Utiliza bolsas reutilizables
- Reduce, Reutiliza y Recicla

Disponemos de un plan para reducir la huella un 5% durante los próximos años

In addition, we continued with the clothing collection campaign internally, encouraging everyone to bring clothes they no longer use to give it a second life, and 170 kg of clothes have been recovered to give them a second life.



Customers

In chapter 3. about customers, passengers and citizens ", we discussed:

- Eco-driving courses for our customers, and
- the efficient driving manuals that we include in all coaches.

Suppliers

The environment area delivers different training sessions to staff from various cleaning providers, those involved in the Image Project (see section 6.3.):

- Order and environment
- Management of hazardous waste and goods

- Training in Good Practices in different production areas
- Chemical product storage

6.6.3. We participate in external environmental forums

By publicizing the work and good practices that we follow at Irizar to move towards a more environmentally sustainable world, we can encourage other organizations to join this new stage of ecological transition and a new development model. That is why we also attach importance to our participation in **fairs and conferences** focused on learning about the experiences of organizations doing work along those lines.

As an example of that, we can highlight:

- Collaboration with **TECNUN-Universidad de Navarra, Sarea** project. In 2020, we started participating to develop a set of strategies that strive to integrate the Circular Economy into business operations, taking into account the role of all stakeholders in accelerating this new model with an agreement with the regional government of Gipuzkoa. As the first action for this project, a workshop was organised in November with various public and private entities called "**Transition Towards a Circular Economy**". In March 2021, Irizar collaborated on the interviews done with people who are pioneers in the Circular Economy with the goal of obtaining information that helps prioritise, mobilise and measure implementation actions under certain Circular Economy strategies that help accelerate the transition in the short term. In collaboration with the Regional Government of Gipuzkoa, in Oc-

tober Tecnun published a report titled "**Initiatives and actors in implementing the Circular Economy**", which describes the conclusions.

- **Etorkizuna Eraikiz Project** - Collaboration with the **University of the Basque Country UPV/EHU**. It is a Sustainability research project carried out by the UPV/EHU in conjunction with the regional government of Gipuzkoa. Etorkizuna Eraikiz is a model whose final goal is to carry out a public agenda through public policies derived from proposals from previous spaces and from the society of Gipuzkoa to create open and collaborative governance.

Irizar shared ideas and concepts in the focus group held in November 2020 alongside various representatives from Gipuzkoa and the mobility sector. In May 2021, they participated in another round of interviews to delve deeper into the Circular Economy and the mobility sector.



- In 2022, Irizar's participation in the **Basque Circular Summit 2022**, held in Ficoba, Gipuzkoa led by the Basque government, with two speakers can be highlighted.

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Euskadi Circular Economy Cluster

- In 2023, at the **Cooperative Companies Forum Euskadi - Navarre**. To share experiences and main lines of action between cooperatives from both territories from an environmental and social point of view



- Logistics and Mobility Cluster of Euskadi (MLC ITS Euskadi) - Invitation to the **ChallengeMyCity project** organised by the city of Vitoria in 2023 to analyse issues with urban mobility and find common ground for potential avenues for action among different sectors that affect urban mobility.

- **Basque Government** – PCTI 2030 (Ihobe) in 2023:

- **Circular Economy** - Transversal Collaborative Tractor Projects: A workshop-gathering of actors to facilitate new ideas for designing transversal collaborative R&D tractor projects in the Circular Economy ITT.
- **Eco-innovation and the Circular Economy** in the Science and Technology plan for Euskadi, PCTI 2030: A workshop-gathering of actors to facilitate new ideas for designing transversal collaborative tractor projects to "retain product value".

- Participation in the **exhibition of circular products made in Euskadi "ZIRKULARRAK" Circular Basque Products**, organised by Ihobe (Basque government). The goal of the exhibition was to support all the Basque companies that have started a process of transitioning to a more circular economic model by developing businesses whose result is putting products or services on the market with a lower environmental impact during their life cycle.

All the Basque companies that have used Circular Economy criteria in their organisations and products or services participated in the exhibition. The exhibition travelled, and it has visited the cities of San Sebastián, Vitoria and Bilbao.



The products shown by the Irizar Group were:

- The environmental product declaration for the ie bus NG (100% electric) bus from **Irizar e-mobility**
- The environmental product declaration for the i4 integral coach from **Irizar S. Coop.**
- The range of "Izir, irizar zirkularra" circular products from the **Irizar Group**

WE CREATE VALUE FOR SOCIETY

Contributing to the SDGs and goals of the UN 2030 Agenda:

Priority SDGs

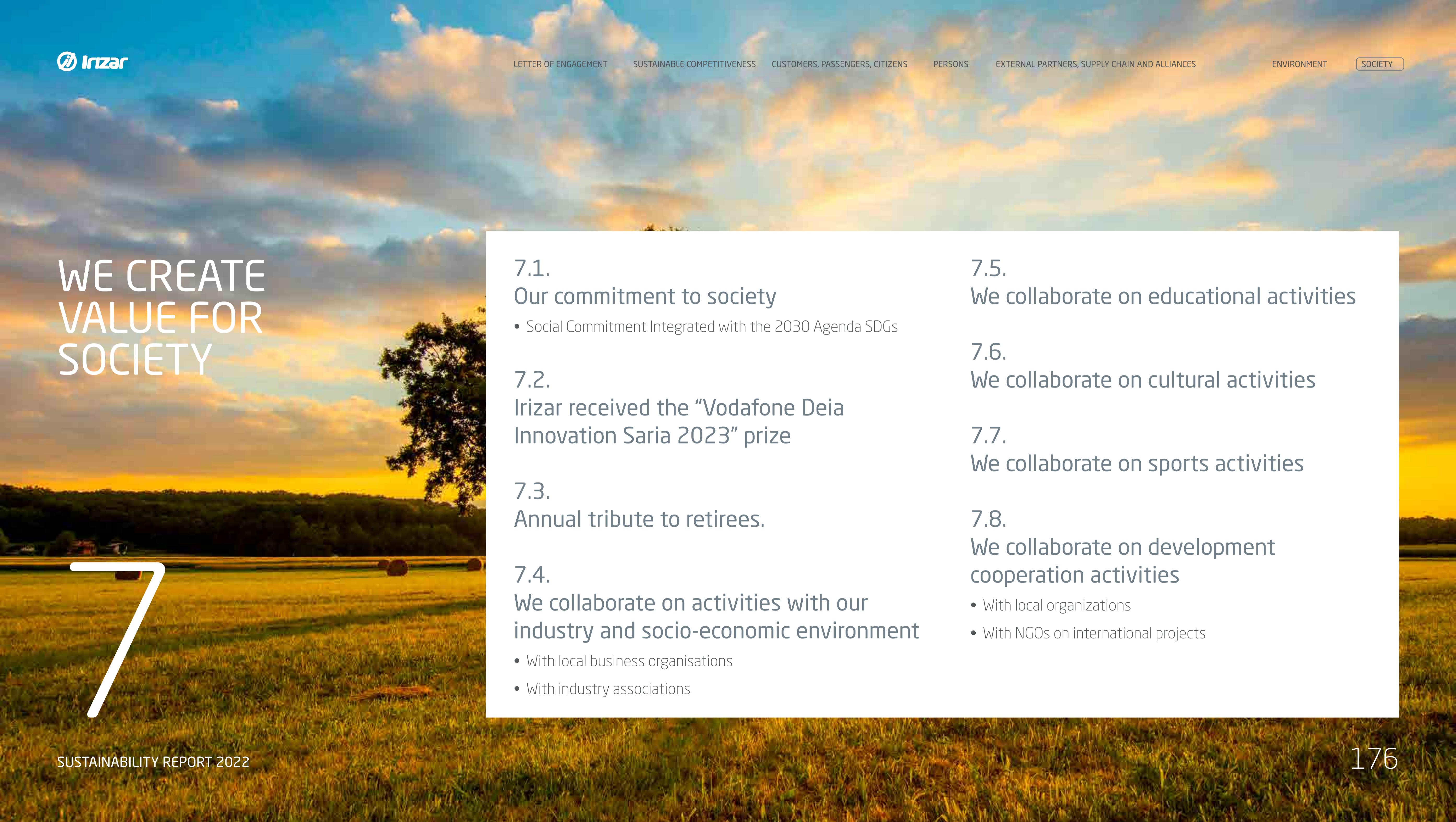
- 8 DECENT WORK AND ECONOMIC GROWTH**
8.1. Maintaining economic growth
8.5. Achieving full employment and decent work
8.7. Eradication of slavery, trafficking and child labour
- 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**
9.2. Promotion of inclusive and sustainable industry
- 11 SUSTAINABLE CITIES AND COMMUNITIES**
11.2. Providing access to public transport
11.6. Reduction of environmental impact in cities.
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**
12.6. Adoption of sustainable practices in businesses
12.8. Ensuring education for Sustainable Development
12.B. Achieving sustainable tourism

Transversal SDGs

- 5 GENDER EQUALITY**
5.1. Ending discrimination
- 16 PEACE, JUSTICE AND STRONG INSTITUTIONS**
16.2. Eradication of child abuse, exploitation, trafficking and child exploitation
16.11. Promotion and application of laws and policies (Human Rights)

Secondary SDGs





WE CREATE
VALUE FOR
SOCIETY

7

7.1. Our commitment to society

- Social Commitment Integrated with the 2030 Agenda SDGs

7.2. Irizar received the “Vodafone Deia Innovation Saria 2023” prize

7.3. Annual tribute to retirees.

7.4. We collaborate on activities with our industry and socio-economic environment

- With local business organisations
- With industry associations

7.5. We collaborate on educational activities

7.6. We collaborate on cultural activities

7.7. We collaborate on sports activities

7.8. We collaborate on development cooperation activities

- With local organizations
- With NGOs on international projects

7.1. Our commitment to society

The Irizar Group's mission is the unequivocal commitment to the growth and creation of wealth and employment, with personnel in the local environments and countries where we are present. In addition, as you can see in more detail in the chapters about Sustainable Competitiveness and people, the best reflection of our strategic commitment in sustainability with society are the charts of the evolution and **commitment to employment** in the local areas where we operate.

"Our relationship with society will be respectful, open and participatory, helping to create wealth and employment, culture, education, and sport in our immediate environment, as well carrying out social work in our immediate surroundings and in the world's most disadvantaged areas."

In keeping with this strategy, we make great efforts, both financially and in our dedication to Irizar personnel, to contribute to building a better socio-economic environment and a better society of which we are an integral part.

In addition **to the commitment to society in general** that we are going to reflect in this section, we have also addressed it in other chapters.

such as:

- In chapter 2, about Irizar and **Sustainable Competitiveness**, we see our commitments to sustainability and association with bodies that are global leaders. We also share our experience in different forums to contribute to increasing awareness about sustainability with our stakeholders and society in general.
- In chapter 4 about people **we also saw that we work with local training centres and universities**.
- In chapter 5 about external collaborators, the supply chain and alliances, also with the **responsible management of our supply chain** we can highlight our deep commitment to our immediate surroundings (Gipuzkoa) with the high number of purchases in the province and employing underprivileged people with the collaboration of organisations with social purposes.
- In chapter 6 about the environment we also saw our cooperation with other local organisations (fundamentally not-for-profits like the EMAUS foundation) in order to, in line with **our Circular Economy strategy** be able to give a second life to surplus production materials and share our experience to raise awareness in our area.

In the framework of our commitment to society every year we dedicate a significant sum of money to not-for-profit activities related with our industry, education, culture, sport and, primarily, social cooperation both domestically and internationally. Not only to boost global development, but also as an avenue for internal growth. The criteria for selecting and specifying the duration of support according to the scope of each collaboration project are determined through the Irizar Social Council, and all employees are informed through the communication channels established for this purpose.



We did not stop doing it despite the pandemic in 2020 and 2021. In 2023 our contribution for education and promoting cooperatives and other purposes of public interest **was, like in previous years, more than 1 million Euros**. The amount was primarily given to not-for-profit activities.

The most significant lines of activity in recent years are listed below, particularly new initiative introduced in 2023.

Social Commitment Integrated with the 2030 Agenda SDGs

Social Commitment Integrated with the 2030 Agenda SDGs

As we put forward in chapter 2 about Irizar and **Sustainable Competitiveness**, in 2023 we took a big step in our commitment to the 2030 Agenda SDGs by measuring our impact on priority KPIs. At the Company Board we consequently decided to prioritise social contribution to **co-operation development activities** including: NGOs and associations that do work to benefit education, health and gender equality and to eradicate poverty, hunger and inequalities



PRINCIPLES OF THE GLOBAL COMPACT	SDGs	KPI	INDICATOR	2019	2020	2021	2022	2023	OBJECTIVE	DATE OBJECTIVE
F. EXTENDING SUSTAINABLE DEVELOPMENT										
 HUMAN RIGHTS  LABOUR  ENVIRONMENT  ANTICORRUPCIÓN	 5 GENDER EQUALITY  8 DECENT WORK AND ECONOMIC GROWTH  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE  11 SUSTAINABLE CITIES AND COMMUNITIES  12 RESPONSIBLE CONSUMPTION AND PRODUCTION  13 CLIMATE ACTION  16 PEACE, JUSTICE AND STRONG INSTITUTIONS  SUSTAINABLE DEVELOPMENT GOALS	<p>23. Contribution to improvement in the sustainability of other external people and organisations (public and private). Irizar S. Coop. is located</p> <p><u>Sharing our knowledge of and experience with Sustainability</u> in forums and training and awareness raising activities:</p> <ul style="list-style-type: none"> • High priority stakeholders (to be specified): Clients, suppliers, distributors, etc • Group coach companies • Other Group companies • Students, external organisations and other people in the social environment 	no. actions / year	8	12	25	43	50	Minimum 20 actions / year	annual
		<p>24. Social Commitment with Cooperation Development Activities</p> <p>Includes: NGOs and associations that do work to benefit education, health and gender equality and to eradicate poverty, hunger and inequalities</p>	% € Development cooperation activities / € total designated for not-for-profit activities	55%	50%	42%	56%	50.24%	50% minimum	annual

 BASE YEAR: year data in **blue** if shown in OBJECTIVE later

7.2. Irizar received the "Vodafone Deia Innovation Saria 2023" prize

In October 2023, the ninth edition of the Vodafone Deia Innovation Sariak awarded the labour and contribution of Basque companies and institutions to the ecosystem of technological innovation and development.

Councilperson for Economic Development, Sustainability and the Environment for the Basque government, Arantxa Tapia, spoke about, "Innovation as a lever for transformation to improve the competitiveness of the country and the well-being of the people who live there"



Those awards recognised Irizar. When he accepted the award, Irizar Group CEO Imanol Rego, highlighted, "Innovation as a key pillar for all areas of the company and the path to decarbonisation"

7.3. Annual Tribute to retirees

Every year the retirees come to their annual event, the tribute they have been given for many years at Irizar. At the event they can enjoy a whole day in the company of their friends and former workmates, where there is never a loss for memories and anecdotes from the old days. At the same time, the retirees still have bonds with the people and knowledge of the activities that were part of their life for many years.

In 2023, after visiting Peru-harri, the Iñaki Perurena "harrjasotzaile" (stone lifter) museum in Leitza, they shared a meal in Lekunberri. And of course, travelling together in Irizar coaches, like every year.



7.3. We collaborate on activities with our industry and socio-economic environment

We have a **bus fitted out for exhibition that we altruistically loan to various social initiatives**. Since 2016, it has been used as a Mobile Classroom for the "Kultura Digital@" campaign in five towns in Gipuzkoa. It was an educational awareness raising campaign promoted by the Regional Government of Gipuzkoa to foster the creative use of technology through teaching programming at an early age (8-16) and, in this way, foster technological pursuits. The figures for the number of participants in the workshops, the media impact of the programme and the degree of satisfaction were very positive, which reinforces our opinion about the programme's future relevance and suitability. Unfortunately, because of the pandemic, it has not been possible to do this initiative since 2020.

With local business organisations

In addition to all the organisations and clusters we have alliances or collaboration agreements with (as seen in the chapter about external collaborators and local alliances), we can highlight these two that we collaborate with to contribute to the positive socio-economic impact at a very local level:

- In 2022 we kept actively collaborating with the **Goierrri Valley**, initiative, which is an industrial partner in the metal-mechanic sector that is leading the industrial transformation of the Goierri valley, where Irizar S. Coop. is located).
- For many years we have also collaborated with the **Gipuzkoa Chamber of Commerce**, financing their activities related with **SDG 8** - "Promoting sustained, inclusive and sustainable economic growth, full productive employment and decent work for everyone":
 - Employment and social insertion
 - Business creation
 - Business continuity
 - Sharing knowledge and business experience



With industry associations

We also annually **sponsor several industry associations**, like Asetra, Aetram, Atuc, Fecalbus, Fenebus and Consorcio de Madrid, with the goal of promoting and positioning bus and coach transport as a mode of transportation that is necessary for the future. All of them have been working and are continuing to work to find solutions and economic support for the survival of public transport operators. A sector that in the first phase of the pandemic suffered greatly and was stigmatized given the campaign to use private vehicles to prevent the spread of the virus. What has become very clear and evident in this crisis is that **public transport plays a priority and fundamental role in the energy transition and that the bus is a key element in the new mobility and the achievement of sustainability objectives**. Since 2020 the importance of staying united, playing an active role to defend our industry, its high added value and promoting economic recovery since the beginning of 2022, has become evident.

More information about cooperation with (domestic and international) collective passenger transport associations and organisations in 2023 can be seen in section "3.2. The customer, at the heart of our strategy", in chapter 3 (about clients, passengers and citizens).



7.5. We collaborate on educational activities

Irizar collaborates in various ways within the field of education:

We actively engage in activities with the objective of **sharing our experience with society** and generating concerns that may be reflected in the progress of other organisations, educational centres, and people. We do this through the organisation of open days at our facilities and through participation in external conferences (in universities and business schools) and discussion forums among various national and international organisations. In all these forums, it is becoming increasingly relevant and there are more and more demands for us to share **how we approach Sustainability at Irizar**. In 2020 and 2021, the in-person open doors days had to be cancelled. They were replaced by virtual get-togethers. However, we have been able to return to in-person events since 2022.

The events and actions where we share our experience in Sustainability with our stakeholders and society at large are discussed in various chapters of this report (especially chapter 2 about our Sustainable Competitiveness and chapter 6 about the environment).

We continue our yearly sponsorship of the “**voyage of life**” cycle of the summer courses at the **University of the Basque Country**. The event is a continued learning and open training cycle, as well as a reflection on the world in which we live with the aim of contributing as much as pos-

sible towards shaping a better and desirable future.

The courses we supported in 2023 were:

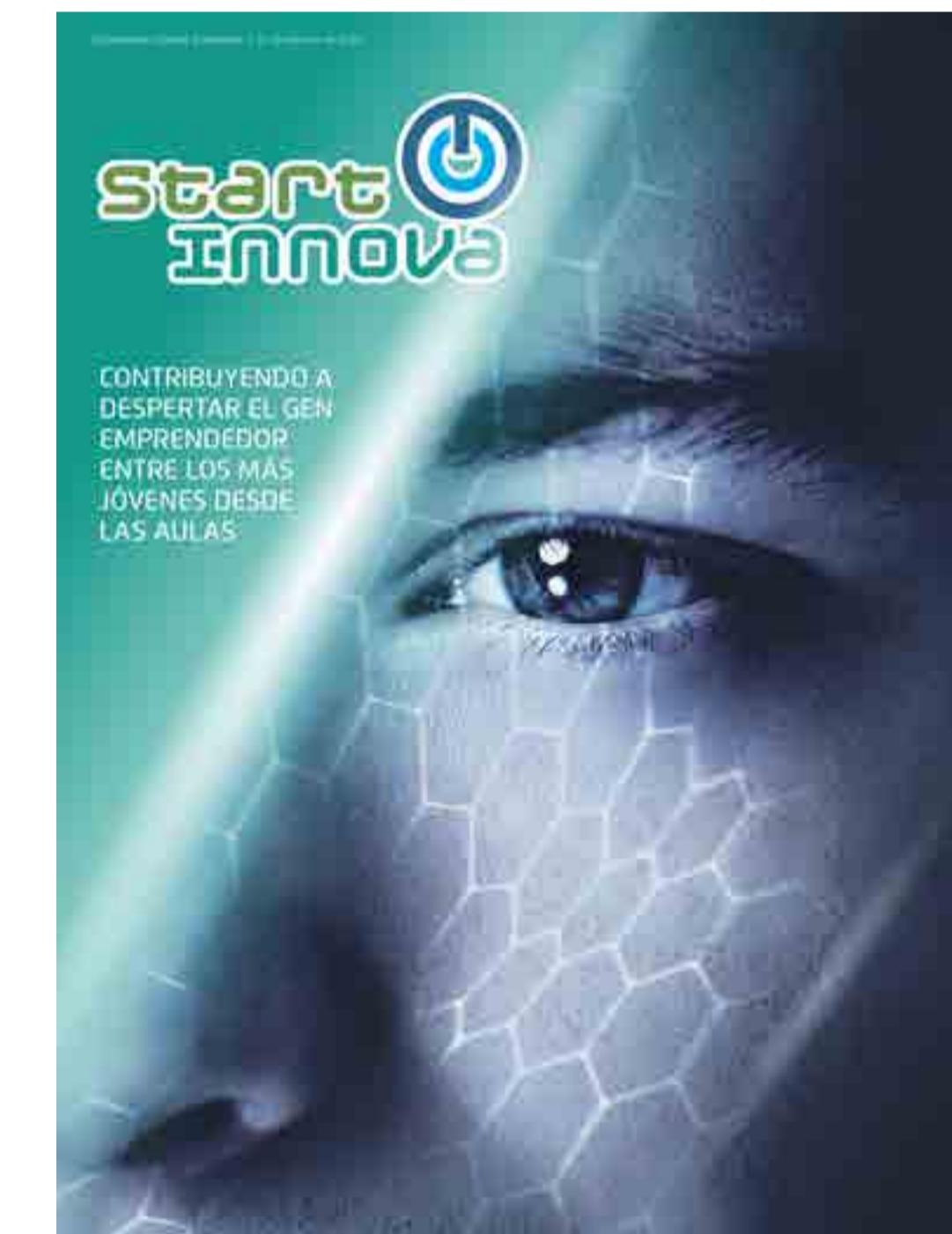
- Jose Miguel Barandiaranen ekarpena Arkeologia, Etnografia eta euskal Mitologiara: held in September and
- Aggressive behaviour in childhood and adolescence: from tantrums to bullying, held in July



Along with town councils and other companies, we are a member of the **Goierrri Foundation**, whose social purpose is the technical, economic and social training and development of the Goierri comarque, which is home to the town of Ormaiztegi.

We participate in the **Goieki Business Incubator**, whose objective is to support and promote the emergence of new business initiatives in the Goierri comarque.

In 2023, for the ninth consecutive year, Irizar was a mentor company for the **STARTinnova** teaching programme promoted by El Diario Vasco newspaper geared towards developing the entrepreneurial spirit among young people. Aimed at youth between 16 - 17 years old who are in secondary school and/or doing vocational training, the programme encourages entrepreneurial attitudes and promotes greater contact between educational centres and the business community.



We sponsored students from the Urretxu-Zumarraga ikastola school, who visited our facilities and presented their projects to us. It was a gratifying experience for the participants and for us.

7.6. We collaborate on cultural activities

We support very local cultural and traditional activities.

Irizar is actively involved in promoting **Euskera** (the Basque language), to increase its use and standardisation, both internally through the Basque Language Plan, as well as socially by sponsoring different organisations and activities, including: Kontseilua, Kilometroak, Nafarroa Oinez, Ibilaldia, Araba euskaraz, etc.

We are annual sponsors of the **Irizar Prize for Basque Film** at the San Sebastian International Film Festival, which in 2023 was awarded to the film **El Sueño de la Sultana** (The Sultan's Dream), and which was the feature length debut of Isabel Herguera (San Sebastián 1961) in animated films included in the official section.



With the aim of contributing to the dissemination of **music**, Irizar collaborates with different entities, including the annual sponsorship of the **Orfeón Donostiarra**, with which it has had a relationship for more than a decade. We also collaborate with the **Euskadiko Orkestra** (Symphony Orchestra of Euskadi). Basque National Orchestra) in 2023, for the fourth consecutive year, which contributed to later concerts.

There are also collaborations **with traditional Basque music and dance** through Euskadiko Dantza Txapelketa and Bertso jaialdiak.

For the ninth consecutive year in 2023 we collaborated with the **Vasca Albaola Maritime Foundation** to build historic ships in an innovative space that brings value to and revives artisanal maritime technology. In the video below you can watch how they are replicating the San Juan whaler.

<https://www.youtube.com/watch?v=nBMx-q0mAnM>



We are continuing our collaboration with the Museo Zumalakarregi of Ormaiztegi, a service of the Provincial Council of Gipuzkoa, whose purpose is to bring the general and specialised public closer to the 19th century in the Basque Country, a period of great social, cultural, economic, and political changes, and the beginning of the contemporary world.

7.7. We collaborate on sports activities

We maintain several types of annual sponsorships including:

- **Fundación Kiroagi** A not-for-profit entity for promoting and developing sports in Gipuzkoa, with a priority on high-performance sports
- **Top level sport in Gipuzkoa:** football (Real Sociedad), basketball (Gipuzkoa Basket Saskibaloia), rugby (Ordizia Rugby taldea), handball (Bidasoa) and women's handball (Bera-Bera).
- **Teams, trials and regional tournaments** in: track and field, rural Basque sports, mountain sports, cycling and sports activities and championships held in the Ormaiztegi area.
- **Lasarte hippodrome:** annual sponsorship of the **Irizar Award** for the winner of the horse race of the inaugural session.

They are becoming more and more involved in **adapted sport and women's sport**, where we can highlight collaborations with:

- **HEGALAK Zabalik Fundazioa:** "Programme for improving the quality of life for dependent people who are disabled and/or have an illness through re-adapting physical activity in Gipuzkoa" and the "Programme for swimming without barriers on the Concha beach in San Sebastian".



- **Adapted Sports Federation of Gipuzkoa** Through the "Comprehensive project of adaptive and inclusive physical activity aimed at children and young people with physical disabilities in Urola Garaia and Goierri". "Zuzenak" **wheelchair basketball**
- **Bera Bera women's handball club**
- The Goierri Gorri Futbol Klub **women's football** initiative that brings together and strengthens the teams above in the Goierri region
- **IDK-Euskotren - Ibaeta women's basketball club**
- **Itzulia - Basque Country Women** (women's bicycle race)
- **TEAM ZATIKA BIKE WOMEN** (women's cycling team)
- **KEMEN** sports club for differently abled people
- **MINDARA ELKARTEA**, Gipuzkoa association for providing care for people with functional diversities
- **Konporta K.E**, a club with more than 25 years of history that works for and with people with disabilities doing swimming and water sports in the pool or in open water
- **Ados pilota**, the fist professional women's pelota club
- **LIMOUSIN women's cycling team**



7.8. We collaborate on development cooperation activities

We place a high priority and make the largest economic contribution to sponsoring various not-for-profit social and assistance entities.

With local organizations

We collaborate with around **30 associations that work locally and throughout the province**, including:

- **Large associations** that we collaborate with on specific projects, such as the **Food Bank** After having intensified assistance to mitigate the effects of Covid-19 in 2020 and 2021, we continued helping in 2022 and 2023.
- Provincial associations, fundamentally **patient and family associations**
- From the **AECC - cancer prevention association to rare disease associations**, like the **Inés de Pablo Llorens** association The latter has the goal of providing economic assistance for research about rare and infrequent tumours.
- For the first time in 2023 we collaborated with **Algaraclown "Ospitaleko Pailazoak"**, who spend time with children and adults in hospitals and assisted living facilities to improve their mood.



Dr. Verónica Llorens delivered the 2023 Inés De Pablo Llorens grant to the Fundació de Recerca Clínic Barcelona-Institut d'Investigacions Biomèdiques August Pi i Sunyer

- **Associations that provide assistance to the elderly**
- In 2020 we began our collaboration with **Bizipoza**, a non-profit association that brings together 35 collectives from the Basque Country. The Bizipoza movement promotes values like solidarity, teamwork and life in society using Basque as the working language. Also since 2023, Irizar has collaborated on the "Kantu eta Bideoklipak" project for helping various associations.

Alongside the projects already mentioned in education and adapted sports, we can highlight that our annual support for **disability support projects** carried out with **GUREAK Fundazioa** continued in 2023.

With NGOs on international projects

We cooperate internationally through projects with **14 NGOs** in order to **contribute to the promotion of education, health, and gender equality, as well as the eradication of poverty, hunger, and inequality.**

In addition to continuing with projects already mentioned in previous Sustainability Reports, we would like to present **the most significant projects** in which we continued to collaborate in 2023:

- **Doctors without Borders** Medical-humanitarian actions in Sudan due to the civil war



- **UNICEF**: Comprehensive medical care for children linked to the armed forces and armed groups in the Central African Republic



We helped Doctors without Borders and UNICEF in an extraordinary way in 2023 with contributions to deal with the **emergency situation in Turkey and Syria**.

In 2023, we collaborated with many **more international projects**, among which we can highlight:

- **Herriak Elkarlanean** Lasserre eskola berria, due to the survival situation they are in, Father Doumond has asked for help to buy basic food items.



- **Derandein Fundazioa**: Improving education at the Nuestra Señora de Covadonga - Centro Kepa Azarloza school in the Kingabwa neighbourhood in Kinshasa, Democratic Republic of the Congo
- **Salesian Missions**: Emergency help for the people affected by the armed conflict in Tigray
- **Ayuda en Acción** Food security in Zapoteca communities in southern Oaxaca, Mexico
- **Medecins du Monde** Afrikan murgiltzen, education for Basque citizens for social transformation
- **ALBOAN Foundation** Migration and forced displacement in Central America



In 2023, in addition to this project, we also provided help to deal with the emergency situation in Turkey and Syria.



FOR A
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